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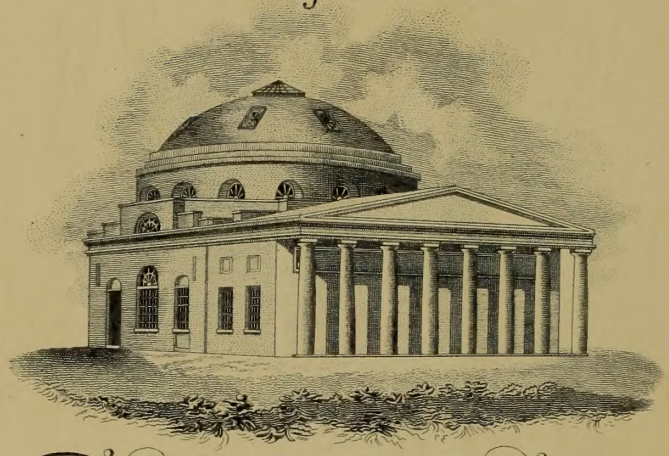

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physical Therapy Dissertations with Corrected Tables of Contents

These manuscripts described as either an inaugural Dissertation or Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physical Therapy during the years 1813-1947. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained spelling errors in authors' names, titles, and/or pages. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were: Richard J. Behles, Historical Collections Preservation Officer; Maria Milagros Pichardo, Metadata Management Librarian; Angela Cecile Rice and Carol Harlang-Henry, Resources Division; Sarah Shields, Alice Sanger and Maggie Wright, Services Division.

These dissertations were digitized in 2011-2012 and are available at the UM Digital Archive (archive.lib.umaryland.edu) and the Internet Archive (www.archive.org).

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(CORRECTED TABLE OF CONTENTS)

UNIVERSITY OF MARYLAND

THESES

1881 (d)

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Janney, O. Edward	Infant Mortality in Baltimore	
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Kemp, H. M.	Milk Sickness	
Author Unknown	Transfusion of Blood: Its History and Its Future	(no title page)
Welsh, Roberto A.	Puerperal Septicemia	

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1851-1892; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

UNIVERSITY OF MARYLAND

THESES

1881 (d)

Bahn, ~~Geo.~~ George W.	~~An Inaugural Dissertation on~~ Hydrocyanic Acid	43p.
Janney, O. Edward	Infant Mortality in Baltimore	46p.
Volkmar, J. M.	Pulmonary Phthisis	34p.
Lafferty, James S.	Cholera Infantum	23p.
Fearing, Woodson B.	Intermittent Fever	26p.
Hollingsworth, Charles A.	A First Labor Case	23p.
Smith, R. Clay	Typhoid Fever	20p.
Duncan, ~~Chas.~~ Charles G.	Six Cases ~~Reported~~	31p.
Leason, ~~Jr~~ James A.	Typhoid Fever	21p.
Palmer, Alfred C.	Vivisection	22p.
Curr~~a~~ey, W. C.	Pneumonitis	41p.
Houston, Henry G.	~~An Inaugural Dissertation on~~ Spanaemia	40p.
Heffenger, C. Warwick ~~C~~.	A Dissertation on Neuralgia	12p.
Kemp, H. M.	Milk Sickness	48p.
Welsh, Roberto A.	Puerperal Septic~~e~~amia	27p.

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A

Inaugural Dissertation

on

"Hydrogenic Acid."

Submitted to the examination

of the

Medical Faculty of Pennsylvania

of the

University of Pennsylvania.

for the degree

of

Doctor of Medicine

by

Geo. W. Baker.

1841. 49

Philadelphia ——— Pennsylvania.

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"Hydrocyanic Acid."

Pure hydrocyanic acid is a colorless transparent, volatile, inflammable liquid, giving rise to giddiness and headache when inhaled, and causing it is said, a bitter pitter taste. It poisonous is that when inhaled it causes death, and it must be handled with the greatest caution: smelling and tasting of it are forbidden by persons practicing. It is stated as inflammable but that we can the old experiment with carbolic fumes until alcohol, or another may circumstances in summer, or in a warm room, or in an glass vessel where the glass cracks and does the rest

solvent of a free acid of air, the solvent taken, the discovery of bromic acid, is believed to have been made by the substitution of the power of this material, whose poisonous properties were first pointed out by the Bonn chemists, in 1865. The compound acid is soluble in water and ether, and is more basic than the chlorine acid and is not efflorescent.

Formula of hydrobromic acid HBr atomic weight 81. Hydrobromic acid gas is represented by the symbol HBr (positive hydrobromic efflorescence, &c.)

a colorless, acidy solution, containing
two per cent. of the anhydrous acid.
It is very bitter and has a mixture
of peach-kernels and bitter
almonds; its reaction is feebly
acid. According to the Ger. of
the U.S.P., it is prepared by distil-
ing a mixture of ferro-cyanide of potas-
sium, sulphuric acid and water, or by
precipitating cyanide of silver from
its boiling solution with muriatic
acid. With a solution of nitrate of
silver added in slight excess, one
hundred grains of it produce a
white precipitate, which, when
washed with a dilute solution
of nitric acid, boiled, and dried at a

temperature not exceeding 212°, the yellow gravel, that is wholly soluble in boiling nitric acid.

The precipitate in the case of the cyanide of silver, and the second filtrate shows that the liquid contains the efficient proportion of anhydrous prussic acid.

As hydrocyanic acid has a tendency to undergo spontaneous decomposition, especially under the influence of light, it should be kept in well stoppered dark colored bottles.

Physiological Action. — On warm blooded animals, pure anhydrous hydrocyanic acid kills instantaneously into the carotid and subcutaneous

death occurring in his first six or
eight hundred minutes, in the second and
at all, or only after the lapse of a
longer time than that noted. After
a fatal dose of the strong carbonic
acid, the animal gasps convulsively,
then instantly falls as if struck
as stone dead, as high
inflammation and prostration supervene
in its place. In either case, at
the signs of asphyxia manifest
themselves, and grow more intense,
until they end in total arrest of
respiration. The heart beats rapidly
at first, often at first slowly and
strongly, with intervals of suspension
of movement, but always re-

coming weaker and more rapid in its action, until, after the breathing has ceased, its effects gradually die away. If the dose has been immense, the heart and lungs may stop acting at once; otherwise the cardiac pulsations may continue some minutes after the cessation of respiration. Ordinarily, three distinct stages are apparent: the first, a very brief one, of vigorous respiration, slow cardiac action, and disturbed consciousness; a second comatose stage, with dilated pupils, violent convulsions, unconsciousness, blue skin, vomiting, often involuntary micturition and defecation, cutting, &c. &c. &c.

of asphyxia, collapse, & paralysis, sometimes interrupted by partial or even general spasms.

The slow flow of the poisoning produces the exhibition of the poison in an unusual just sufficient to kill. After the injection of such a dose, no phenomena are observed for some seconds; then the breathing becomes labored, and the pulse slow and feeble. The eyes prominent, and numerous trembling incite the whole body to give forth in a very short time, to clonic and tonic convulsions, which continue at intervals until the third day, that of asphyxia

developed. The convulsions are less violent and frequent than those of the acute poisoning, and the symptoms noted as occurring during the second stage of depressed cases are present in the corresponding period of the subacute poisoning, although less violent and intense in their manifestations. When the third stage is developed, the asphyxia is marked, affecting first the hind legs, but finally spreading to all parts of the body, and even being noted in the widely dilated pupils. Death finally results from failure of respiration. Recovery may occur even after the convulsions have ceased

and its sensibility; the return to life by existence of symptoms varies extraordinarily, so that generally in proportion as the half to three quarters of an hour the animal is left to lie dying as through nothing had happened. Sometimes, however, after fainting of paralysis in some cases for days. Prussic acid, says Dr Christison, produces similar effects, particularly with those which it causes in the lower animals, the symptoms come on suddenly. In a moment or two the individual falls to the ground insensible and convulsed, the respiration ceased or recurring at long intervals, the eyes

second, the pupils dilated, the [illegible]
covered with bloody froth. If the
dose be sufficiently large, death may
occur in three or four minutes; if
not, there will be high insensibility,
stertorous breathing, dilated pupils, a bluish countenance,
opposed surfaces, set jaws, and
irregular respiration, resembling the
chief symptoms. The breathing is
mostly stertorous, with deep, prolonged
inspiration, but in some cases it has
been shallow, with death resulting from
asphyxia. Lighter symptoms but
not lethal doses of prussic acid,
giddiness, lightness of the head, nausea,
a quick pulse, [illegible]

poisons on the right side of the heart.

Action on the Blood. — Dr. Dr. H. B. Daly, called attention to the change of color that occurs in the venous blood of animals poisoned with prussic acid; and his observations were confirmed by G. A. Schabath, of Berlin, in 1834, by J. F. Lebenheim, also of Berlin, in 1835, and by Dr. Leger, Paris 1857. Claude Bernard, explains the occurrence of these changes, and further states that if the animal die suddenly the blood in the veins and of the right side of the heart is found of a bright arterial hue at the post-mortem examination.

the Urinary, J. R. Bizzozero, and numerous other observers have found that after death, hydrocyanic acid, either in man or other animals, nothing but dark venous blood exists in the body.

Prof. W. Preyer, has effected by his experiments on extirpation of the cerebellum, the fact that directly after the exhibition of the acid to a mammal the blood is arterial, even in the veins and in the right heart, of a bright scarlet color but after a time this color changes into the blue of venous blood, and finally, even in the arteries and left ventricle, only blood of venous

Chemistry is to be found. His first
biographers are in a number of
experiments, confirmed this, so it
must be accepted as a fact.
An animal dies suddenly from cardiac paralysis, during the first
stage of poisoning, this specific
determination may be found after
death, as mentioned by Claude
Bernard; and, as Boyer first
noticed, in solid blood animal
the bright color persists for many
days. By spectroscopic examination
Prof. Boyer found that the red
blood of pernicious anemia is
absolutely or almost free from
iron, showing traces the absorption

bands of hæmatinic hæmoglobin, which
Gal Lindhagen, has discovered that the
red venous blood of the first stage
of the poisoning shows very clearly the
absorption bands of oxyhæmoglobin.
The last question which arises at
this junction pertaining to the cause
of these changes of the blood, is
primary coarse oxygenization, its
secondary coarse carbonization, or
Hoppe-Seyler affirms that the appear-
ance of red blood in the veins is be-
cause the red blood corpuscles have been
so acted upon by the poison as to lose
their ability of yielding up their
oxygen in the capillaries, the blood
corpuscles, has by an elaborate

of experiments shewn that in the first stage of the acid fermentation less than the normal amount of carbonic acid and of atmospheric oxygen is eliminated. The direct operation of oxygen probably depends mainly upon its direct inhalation of oxygen, owing to the diminished respiration. That the direct operation of carbonic acid is not due to the same cause, however, is shewn by the fact determined by [illegible], that the percentage of the acid in the expired air is less than normal. It is evident that if the increased quantity of carbonic acid were produced by the entrance into the lungs of [illegible]

of air insufficient for the wants of the system, the expired air would contain more than the normal proportion of carbonic acid and less than the normal amount of oxygen. The observed phenomena seem to prove that during the first stage of pneumonic acid poisoning oxidation is greater. They do not demonstrate, however, that this result is due to a direct action of the poison upon the blood-corpuscles. The probabilities of such an occurrence are rendered very slight by the investigations of Lauthepia himself, for it appeared that when the experiments were prolonged from seventeen to twenty-four minutes, much more than the

second amount of carbonic acid be exhaled, a fact in accord with the excessive carbonization of the blood known to take place in prussic hydrocyanic-acid poisoning. But it seems incredible that a substance should not minute analyze the oxygenizing power of the blood-corpuscles and the most minute increase it, it is very improbable that the super-oxygenization of the blood in the first stage of the acid poisoning is due to a direct action of the poison upon the red disks.

Again, the fact that when hydrocyanic acid added to blood, at the temperature of the body, the spectrum of

time is altered and the absorption
appears. These bands are no doubt due
to the formation of a new compound
by the union of haemoglobin and
the hydrocyanic acid. This substance,
cyano-haemoglobin was first discov-
ered by Hoppe-Seyler, and has no
oxygenating power whatever; the
formation, no doubt, is causing the
loss of oxygenating power by the blood
to which hydrocyanic acid is added
outside of the body, a phenomenon
previously noted by Schmiedeberg, and
indicated even earlier by the resear-
ches of Prof. Harley. The latter ex-
perimenter found that the blood taken
out of the veins of a dogged dog

eight days after death, from pneumonia, and thoroughly aerated by shaking with air, and then collected in a graduated gas containing [illegible] parts of oxygen, 80.4 parts of nitrogen, and [illegible] parts of carbonic acid.

These facts at first sight seem to favor the theory of higher life, to which, indeed they no doubt gave origin.

Pleyer, has shown, however, that the dark blood of pneumonic patients has not lost its power of oxidation, for on being shaken with the air it assumes the red arterial hue; and Mr. Secretan and Pennet, have determined that artificial respiration will prevent the [illegible]

in the performed animal. However, the spectroscope shows, plainly, that the haemoglobin exists in the blood cells in its pure state (Preyer), as Hb and as oxyhaemoglobin, and that no oxygen haemoglobin is present. The reaction between hydrocyanic acid and haemoglobin is one requiring some time, and certainly does not occur in poisoning. On the whole, therefore, I think that the chemical evidence clearly shows the presence of the charge that prussic acid exists in the body directly upon the red blood-corpuscles.

Preyer, has shown that the excessive oxygenation and the subsequent excessive carbonization of the blood

not peculiar to the air passages and are equally present after the exhalation of sulphureted hydrogen, and even after mechanical closure of the mouth and nose. It is possible that an increased arterial pressure, an increased rapidity of circulation may cause the blood to pass so quickly through the capillaries to allow time for the usual changes, but this has not been proven, and at present it must be acknowledged that we are ignorant as to the immediate causes of the blood changes in these cases. It is possible although improbable, that the changes in the color of the blood are due to

tentions in the form of the convulsions. Whatever may be the cause of the changes in the blood, the experiments of Sanderson, would appear to prove that the action of the poison on the nervous system is a direct one, and not due to these changes in the vital fluid, for the observer mentioned, found that the acid acted upon the bloodless "salt frog" as upon the normal animal.

Action on the Heart.— The action of hydrocyanic acid on the heart varies according to the dose. In sufficient amount and concentration, it produces instantaneous diastolic arrest, which is either permanent or re-occurs after a few slow pulsations

nerve. Beyer, who examined this nerve in second series found the contractions spoken of above is due to direct action upon the heart-muscle or its intrinsic ganglia, yet had after section which prevent pneumogastric the heart responds to pneumogastric.

The cardiac results of the stimulation of vasomotor non-tegic nerves are, according to Beyer simply slowing of the heart action. Both Schmiedeberg and Beyer have found that after section of the vagi the primary diastolic arrest of the heart does not occur, it seems an inevitable conclusion that pneumogastric fibres stimulates the cardiac inhibitory apparatus.

action on Respiration. According to Beyer, during certain stages of the acid poisoning the respirations are diminished in frequency, and during the latter moments of life the efforts at breathing are convulsive, and giving place before the onset of cardiac movements. The observer just mentioned found that after division of the vagi, and large doses of the acid were exhibited the animal was killed by cardiac arrest. And it is apparent the respiratory action of the pneumogastric is upon the peripheral ends of the vagi.

Bochmann and Naiv, have in a series of experiments proved that when

the vapors have no injurious effect upon the respiratory action of the frog. Even if investigation should prove the conclusions of Beyer's experiments, his conclusions cannot be accepted or established, because we know so imperfectly the normal relations of the pneumogastric to respiration. However Prof. Jones, proved that whilst to kill an animal by the administration of poisons must require a considerable length of time, its asphyxiation to the minutest produced within a few minutes a most perceptible respiration, making in fact a normal modification of the mode of respiration and action of the

tong. For the whole, the fundamental
view to me to be in favor of the view
which attributes the respiratory phen-
omena of prussic acid poisoning to
an influence exerted directly upon
the respiratory centres in the medulla
oblongata—
Claude Bernard, however, notwith-
standing the attention, has proved that for
large dose of the acid poisoning,
both the vagus-bundles and the medul-
lary centres are incapable of being
responded very partly to direct stimulation.
This is in accord with the experi-
ments of Blagden, who, he said
that when strychnine and prussic
acid were given together, the second

sions commonly produced by the poisons were altogether wanting or present only in a slight degree. In order to determine whether the nerves are or are not primarily affected, Mitscherlich experimented by laying the nerves of the thigh, then dividing just below this point the tissues except the nerve, and administering poisons said by the world. In a number of such experiments he found that animals he poisoned manifestly like the others showed their irritability, but that when the poisons and other things were applied to the nerve higher up, they failed to elicit any response.

the experimental history was so, positive proof that the new tissues are produced by a direct action of the brain. This is reminiscent of proof to the experiments of Thomas, who recorded that the formic acid injected directly to the roots did not act upon them. Thomas, however, compared the results of injecting a mixture in nutrition and in a solution (5 per cent.) of formic acid, and proved this injected is toxic to the root-tissues. Hitherto and in, excepting the experiments of Thomas, neither solutions of phosphate of sodium, nor containing the other fertilizers, nitrogenous and potassic

that the water in the perforated glass did much sooner than did that in the non-perforated solution.

It has been proved that the glass did much quicker in the solution of the acid than does the wood, having its equilibrity in from 2 to 3 eight minutes. This rapid lateral rise of increase instability by the mere application of formic acid was a bizarre point noted by Devan in 1877. Yet it is most probable that between given intervals formic acid acts almost as rapidly upon the wood-fibres as upon the mercury, since distillers, noted that in some cases fermentation of the

very poisonous effects of carbolic acid
lesions in the injection mass,
although the latter respond feebly to
direct stimulation. This point has
been experimentally corroborated
by Moore.
Upon the peripheral sensibility of
prussic acid portably, if in sufficient
concentration, acts as a paralyzant; at least Mitscher found
that if the leg of a strychnized frog
whose head had been cut off to prevent discussion, were put in a
4 percent solution of prussic acid,
in a very short time irritation of the
immersed skin could be further
excited.

from the observer to the author. In
Hildebrand's experiments, the nerves
were affected in frogs poisoned by
hydrocyanic acid, it seems probable
that he is correct in his conclusion
that in addition to intervening the fibres
first passing to the brain, and
then the spinal centres of the spinal
cord, and afterwards the motor
nerves. But I have not met with
any experimental evidence in support
to the order in which poisonous agents
affect the nervous system. According
to Hildebrand, as quoted by
Bernard, in frogs it first paralyzes
the organ, then the white substance
of the brain, and the [illegible]

presence of spinal movements are not due to spinal fatigue, but to destruction of the functional power of the peripheral efferent nerves, Bergeron also states that the convulsions of strychnia, resulting upon the following experimentally proven fact, which if accurate seemingly renders the hypothesis untenable. When a frog is poisoned with prussic acid, and afterwards with strychnia in proportions mentioned above, there is a stage at which only irritation of the efferent nerve-roots cause violent general tetanic spasms, although the most intense peripheral irritation fails to elicit

reference.

It is a question of interest to know as to the cause of the convulsions in poisoning by the acid. It has been proved by Prof. Brand, that they do not occur after section of the cord in parts below the point of section, and that they are therefore central in origin; for reasons detailed above, it is very probable that they are due to disturbed cerebral circulation, and this probability is confirmed by an experiment of Sachsendahl, who found that if a rabbit be so placed that the head maintained artificial respiration, and injected prussic acid, [illegible]

to the cord of the circulation. Dogs poisoned with the acid in question do not bark false. Pavy states that after section of the vagi, animals do not generally expire in consequence, but if artificial respiration be performed they come round.

Therapeutics.— Given knowledge of the physiological action of prussic acid does not tend to a belief in its antispasmodicity to the relief of tissue, and I think clinical experience has demonstrated that it is of little or no effect in controlling these affections; first, to allay cough; second, to relieve irritation of the cardiac nerves; third, to allay irritation of the

sensitive nerves. (Wood).

There appears to be in the profession a very little great belief in the power of this remedy to anæsthetize, and that it is very hardly used for this purpose in simple neuralgia, either it fails or in the form of injection of solutions. Wood tries it in combination with an hydrous morphia, but I do not believe it can compare with such narcotics as opium or hyoscyamus in its ability to fulfil the present indications.

There can be, on the other hand, no doubt as to the value of fumigation in cases of

[illegible] [illegible] [illegible]
gastralgia. When the pain is at
or aggravated by dyspeptic symptoms
the remedy will seldom succeed,
but more often fails. Given in
the most favorable cases it does not
always afford relief, and in the
relief when it does occur is immediate,
or at least is very soon apparent;
it is rather by general long use
[illegible] condition of the remedy. In this
case its action is probably local,
as it certainly is when the seat of
[illegible] to relieve itching [illegible]
[illegible] and other cutaneous diseases. In this [illegible] it is used
as a wash, [illegible]

great care must be taken to avoid constitutional effects, especially when there is any ulceration of the skin. Very serious results are said to have been caused by its absorption when incautiously used in skin disease.

Prussic acid has also recommended in external relative; but it is evident that we possess remedies more efficient and far safer remedies of such character.

Therapeutics.— The symptoms of poisoning with hydrocyanic acid indicate its medicinal uses. Those of most consequence are the sudden cessation of muscular movements, the violent convulsions, the

paragraph; the process consists of the oxidation, effervescence being [illegible] and frozen; and the product remains. The color of formic acid in the bottle is very often, but by no means always frozen. When this is, it is, of course, of very great diagnostic value. Bearing out of sight the appearance, the confusion with potash the acid could not be confounded in nitro-benzol. The dilution is often very different, very deep, the latter sometimes being almost as quickly as formic acid, and introducing analogous symptoms. Perhaps when that after bath the body is left plain, [illegible]

in the order of frequency and difficulty, whilst that of the nitric acid is persistent. The disease with which the poisoning may be confounded most readily are some forms of phosphoric poisoning, and sudden failure of the heart's action. The diagnosis may, having regard, be at most impossible. It has been said that strychnine bearing drug and even in poisons and poisoning it has been present in sufficient to produce death. Post mortem examination, however, might generally be sufficient to determine whether the case has or has not been one of poisoning and

Living Life are known.

The period at which death may occur after the injection of the poison is yet doubtful, it may be fifty-five minutes; but a case is reported in Guy's Hospital Reports, 1868, p. 259, observed by Dr. Hilton Fagge, in which the patient could not speak, at least an hour and a quarter after the injection of hydrocyanic acid. Upon death the body often presents a livid complexion, blanched appearance, fixed yellow eyes with dilated pupils, and clenched fingers; sometimes it appears nothing worthy of note except [illegible]

ility, and the pain may be very great. When opened, the odor of prussic acid is generally, but not always, emitted; the mucous membrane of the stomach is very severely pained or injured, and there is a strong-colored liquid blood running very active life of the vessels. The heart is left and pleasant. The treatment of poisoning by prussic acid is, unfortunately, as inefficient as it is simple. There is no known chemical or physiological antidote to it, the secret substance of atropia having been discovered in the experiments of Rieu, Pereira and Mialhe.

of phenol be dissolved, and the
injudicious use of atropia or
respiratory stimulant might be hurtful;
the inhalation of the vapors of am-
monia, and the free exhalation of
ammonia by the mouth and by in-
jection into the veins, may be prac-
tised. Artificial respiration has re-
peated every succeeding by Pagan,
and by Pochon and Alvin is invari-
ably performed by small doses of
prussic acid, and blood vessels
or arteries formed. Lest be it
in importance in the use of the
alternate cold and hot douche,
about a half of a small bucket-
full of cold water and the

mortality of very fat (115 pounds) being treated upon the theory of rapid succession.—

Administration.— The dose of the official dilute formic acid is one to three drops.—

A

Thesis

On

"Infant Mortality in Baltimore;"

Submitted to the

Medical Faculty

of the

University of Maryland,

for the Degree of

Doctor of Medicine;

by

C. Edward Janney.

Baltimore, Md.

1884.

Infant Mortality in Baltimore.

O. Edw. Janney.

Certainly no fact is more often brought to the consideration of the medical profession than that shewn forth in the vital statistics of all cities — the strangely large number of persons who die during the years of infancy and childhood. That nearly one half of the number of people born, perish before six summers have been passed by them, is indeed sad, but it is true.

Our city of Baltimore, although making a more encouraging report than some others, still shows a high rate of mortatity among children. The last report of the Board of Health, that of 1879, shows the whole number of deaths during that year to have been [illegible], and of these [illegible], or

nearly half, under the five years of age. The following table show the diseases of which 2048 children died:-

Scrofula	27	Enteritis & L. Col.	42
Bronchitis	80	Scarlatina	202
Convulsions	309	Other fevers	50
Consumption	100	Gastro-enteritis	30
Cholera Infantum	477	Inanition	135
Croup	137	Measles	39
Dentition	95	Marasmus	193
Dysentery & Diarrhoea	88	Pneumonia	229
Exposure	2	Syphilis	14
Premature Births	140	Total --	2048

Nearly all the above cases belong to those classes of disease which may be warded off by prophylactic measures; and that so great a portion of those born should die of these diseases proves that we are living under con-

[illegible] Since every [illegible] [illegible] then is the cause or what the causes of this great mortality among children in our city?

The consideration of this question, and of the best means of removing the evil, is the object of this essay, and in pursuing this object it will be necessary to discuss measures of general hygiene which seem to touch only remotely on the question at issue.

It is a subject of vital interest in every point of view, and [illegible] attentive study of every earnest physician.

Causes.

Improper Drainage. – Just what influence our system of drainage has upon the health cannot be exactly determined, but that it is one great source [illegible] the ground on which our city is built, giving immense facilities for surface drainage, has caused that system to be adopted; sewers are laid only along [illegible] lying streets to carry off liquid matter which has flowed on the surface, perhaps six or eight squares before reaching the sewer's mouth. [illegible] our streets, finds innumerable resting places in which to rot and pollute the air and give rise to vegetation which is both unsightly to the eye

and an enemy to health. These overcharged sewers [illegible] discharge their contents into Spring Gardens, Jones Falls and Harford Run, thence finally into the Harbor, where the decomposing filth, surging with every tide, sends atmospheric waves of dis- [illegible] up the ship-channel on the other. Should [illegible] on Pratt St. bridge and carefully notice the water below. It is [illegible] vegetable matter whose state of constant decomposition is evidenced by the bubbles of marsh-gas and sulphuretted hydrogen which burst constantly on every foot of surface. When we consider our miles of water-front, that Harford Run extends clear across the eastern section of the city, that Jones Falls [illegible]

a populous district and close to the centre of [illegible], a [illegible] [illegible] morbific germs;— can we longer wonder at the vast number of our people who every year fall victims to zymotic disease! A section of the city well-known as being most sickly and often reported so to the Health Office, is the vicinity of Eden St. from Baltimore St. to Belle Air Avenue; and why? Harford Run a most foul stream, receiving the drainage of tanneries and of hundreds of dwellings, flows [illegible] but past back-yards and even under the houses themselves.

[illegible] we are better off than some of our sister-cities. By

far the greater number [illegible]

ter into wells sunk in the yard. In its perfection [illegible]

traps under all closets and sinks, air-tight drain-

[illegible]

Sullage. [illegible]

in the very state which tends to decomposition

through the pipes to the house, soon find a leak

or a defective trap, arranged for their passage

infect the whole dwelling. As a consequence

[illegible]

the family, inspection is instituted and the [illegible]

illustration: "In the eastern part of Washington a child aged nine years died of scarlet fever. On investigating the case I learned the following facts: About one week before the first child, an infant, was taken sick the water-pipes were [illegible] repair them tore up the bath-tub and the water closet and [illegible] days without [illegible] the [illegible] pipes. [illegible] previous, and there were no cases of

scarlet-fever in this locality at this tim .
There followed, in quick succession, five cases
[illegible];
all of which I consider directly chargeable
to the criminal negligence of the plumber."
In his work on House Drainage, Bayliss uses
the following language in regard to this evil:-
"No fact rests upon a broader or more substantial
basis of truth than that the emanations from de-
composing sewage, commonly called sewer-gas, are
a frightful source of disease. Whatever the agency
by which it works, we know that it comes with the
power and potency of death; escaping into the
free atmosphere, it deadly power is quickly de-
stroyed by the oxidation of its organic poisons;
but when it mingles with the confined air
of our living and sleeping rooms it retains its

[illegible] power [illegible] effectually. Dr. Mapother, of Dublin, an eminent authority, states that there occur annually in [illegible] 20,000 terminate fatally, which are clearly traceable to defective drainage and sewer-gas poison[illegible] [illegible] swell the total, but to bad plumbing work we may [illegible] malarial fevers, croup, diphtheria and many kindred diseases, which are almost epidemic in our large cities."

"Perhaps the most fruitful source of impurity in the air in dwellings is the damp condition of [illegible] to them, which often becomes saturated with liquid filth by the too-frequent practice of throwing the slops of dwellings upon the surface [illegible] bad a condition, by heaping upon it solid house refuse of all sorts, to be washed into the soil by the rainfall, and to [illegible] mulated heaps, or to spread their minute particles into the air to be taken into the lungs by respiration. It is when such a state of things exists that malaria may be said to surround the dwelling and rende[illegible] air ... The absence of air-drainage is the [illegible] cause of evil, ... and it is shown ... that long contin-

ued exposure to bad air tends to the production of scrofula and consumption;... that it promotes enteric fevers; that it fosters ailments of the respiratory organs, such as catarrh, bronchitis, and pneumonia; that it is frequently the cause [illegible] to the spread of small-pox, scarlet-fever, measles and the like, while it renders the rapid cure [illegible] of great difficulty."[1]

Impurity of Air. - [illegible] grows weak as summer comes on and falls an easy victim to infantile disease, while his country compeer thrives? Why is it that when the sick city child is taken to the country, it gets well?

[illegible]

1. Sanitary Engineering - J. B. Denton.

yet there is a vital difference in the influence of the two seasons upon life. Summer approaches bringing harvest, health, and happiness to the farmer and his family, but anxiety, sickness, and death to the young family in town. Every weekly report tells the same sad tale, and through the long hot summer the slaughter of the innocents goes on until, before frost comes, children have filled more graves than could be counted on a dozen battle fields. The weather seems to cause some diseases, and if the child has one already, it grows worse. Thus, in the summer of 1879, all deaths from cholera infantum, 477, occurred between May and November, and of these 431 occurred in June, July and August. There were 30 more of diarrhœa, which also were in the same months. The mortality was

of deaths from convulsions (94), occurred in July, and the greatest number of deaths from dentition (96), occurred in August; there being [illegible] who died in June, July, and August, instead of being 25 per cent of the yearly number, reached [illegible] per cent. [illegible] might go through the list of infantile ailments, seeing everywhere the effect of some mighty power which crushes out the frail life of our infant population.

What then is the cause? The condition of our streets, the inequalities of which are filled with decaying matter, the deposition of garbage within the city limits, the [illegible]

Basin; the damp and dirty state of many dwellings; all combine to originate and send forth zymotic germs which cause disease. Prof. Tyndall has shown that if a beam of electric light be made to pass through such [illegible] carries the seeds of disease to be planted in [illegible] resist their influence. In this we see the reason why the well-nurtured child [illegible]

[illegible] the whole city to keep its every part free from all impurity. It is a well-known fact that [illegible] themselves in the course of a few miles, so likewise it may be that as the air of the country, [illegible] or its impurities, passes on its course through [illegible] it, soon becomes tainted by decaying [illegible], but must be breathed by the city—[illegible]; then passes out to the country, puri-[illegible]

Contagion. – There are two fruitful sources [illegible] – [illegible]. A child by some means contracts scarlet-fever or other contagious disease and, before fully recovering is allowed to return to school, to mingle with the scholars and so spread the trouble. [illegible] case at home and thus the little ones, too young to attend school are not exempt from the school-influence. Again the books used by the sick are as a rule used by other children, being put through some process of disinfection perhaps, which is entirely futile for good. [illegible] of a malignant disease, will allow its former companions to take a last look at its features, not realizing the almost certainty

[illegible]

[illegible]

[illegible] want of thought.

Want of Water. – It is not hard to realise that a want of pure water, both for bathing and drinking, may have a very serious effect upon [illegible] health. [illegible] in the older sections of the city, most poor people, not having water in their houses, depended upon neighbouring pumps from [illegible] supplies. [illegible] of sickness, however, were traced to the use [illegible] being submitted to analysis by Prof. [illegible], it was found in nearly every case [illegible] full of organic matter to be fit [illegible]

[illegible]

[illegible] were found to be "foldy." It is plain [illegible] to use such water is to invite diseas[illegible] the action of the authorities in destroy[illegible] the pumps was clearly right, but at [illegible] by so doing, the usual water supply of [illegible] access made so difficult that they a[illegible] [illegible] their children open to attacks [illegible] termination.

[illegible] cted with this subject

is that of ventilation. In warm weather no trouble is felt on that score, but when dreary winter closes in, then many poor, unable to buy sufficient fuel make every effort to keep out of doors [illegible] which without their warmth, [illegible] and get the pure air. This bad air [illegible] poisonous must it be to the tender [illegible] such a fate.

Lack of Parental Care. [illegible] fashionable in society for mothers to [illegible]

[illegible] content to hand them over to the attention of indifferent servants often of ill disposition and always ignorant.

[illegible] work for money and care nothing for children except as a means of obtaining it, and who should they? If the mothers do not love and care for their offspring, [illegible] the mother, unable or unwilling to nurse her child, buys or borrows [illegible] called a "feeding bottle," and [illegible] for sickness. There are two styles of these bottles; one plain with a simple rubber cap, all easily cleaned, the other consisting of a bottle with a glass and rubber tube

[illegible] a small nipple which is held in the mouth. This latter variety is the most used and [illegible] keep the long tube clean and the infant [illegible] corner meals, greatly to the detriment of its [illegible] and nostrums are given, and the chi[illegible] notwithstanding all the efforts which wealth and skill may now make, too late, to save its life.

More important than the state of the bottle, however, is the state of the [illegible] [illegible] from the [illegible]

[illegible]

[illegible] exist, but the fact is that pure, rich milk is seldom to be had every day, and this

[illegible]

[illegible] of the farmer who fraudulently

[illegible]

[illegible] see how that not only is the fatty matter [illegible] lessened in amount but the other [illegible]us constituents are so diluted as not to [illegible]

[illegible]

tested the milk from [illegible] by ascertaining the amount of cream. [illegible] milk was taken from the wagons while making [illegible] table gives the results of his tests:-

Dairy No. 1		.095	Dairy No. 14		.25
"	" 2	.195	"	" 15	.10
"	" 3	.10	"	" 16	.10
"	" 4	[illegible]	"	" 17	.10
"	" 5	.07	"	" 18	.245
"	" 6	.16	"	" 19	.11
"	" 7	.08	"	" 20	.01
"	" 8	.08	"	" 21	.20
"	" 9	.09	"	" 22	.15
"	" 10	.06	"	" 23	.095
"	" 11	.10	"	" 24	.15
"	" 12	.12	"	" 25	.15
"	" 13	.13	"	" 26	.10

If the four samples of the above table which gave the best results be excluded, those left show an average of only .078 of cream, while good milk will yield 12 to 15 per cent. Thus we

see what a small number of dealers furnish truly rich milk, and the evil thus originated is one of greater magnitude than would at first appear. When for any reason, it is [illegible] to resort to artificial means, the great desideratum is a food as nearly like the human milk as possible and which will contribute to the growth of the child. The milk of cows, containing as it does elements of every part of the system, is the nearest approach to a perfect food [illegible]. It, when properly given and of good quality, will serve every purpose; but when not so, the result is that the child, not receiving sufficient nutriment to supply the demands of life, gradually pines away and [illegible]

The parents not for a moment realize the awful fact that instead of having an abundance of good food, the child was struggling to exist by [illegible] little more than adulterated water from the bottle.

Should the infant live to enter the youthful child-hood, still is its pathway beset with deadly perils. Fat meats, and all kinds of indigestible articles of food are allowed it without any regard to the difference between the infant and the adult organs, and the result is seen in the fact that out of 7618 deaths in Baltimore during the year 1879, 3385 (42%) were children less than five years old.

Pre-natal Causes.— In examining the health report of Baltimore for 1879, the following facts cannot fail to attract notice. Of all the children

who died under the age of five years (3383), 2066 were under one year, or [illegible] of child-births. Of those who died under one year, about 1[illegible] died during the first week of life.

What do these statistics indicate? That there must be causes which, being in operation while the infant is still in utero, act either by causing premature birth, or by so lessening the child's vitality as to cause its death soon after. How often is it seen that an infant [illegible] feeble, unable to draw a breath, and when after persistent effort on the part of the attendant it is made to breathe regularly, is found lifeless upon the [illegible] day of birth. Some of these pre-natal causes of disease are known, others are obscure. It is known that syphilis in the maternal system will cause abortion, and it

is more than likely that this and all the constitutional infirmities in the parents, will have the effect of impairing the vitality of offspring and so lowering the tone of it constitution as to render it liable to be carried off by the diseases of childhood and prevent its attaining that strong and beautiful manhood which is the glory of our race.

Remedial Measures.

So far our at-

[illegible]

[illegible]

mortality in our city. We have endeavored to mine below the surface until we have discovered those hidden sources of evil which escape a superficial view. We will now take

[illegible]

those measures which, when put into operation

[illegible]

the city-infant will have as fair a chance for life and health, as the country child. Perhaps

[illegible]

aim of the physician should be [illegible] and enthusiasm great, for [illegible] is the good [illegible], he receives a reward in the respect and gratitude of his fellow-man, equal to that received by the greatest benefactor of his race.

House Drainage. – [illegible] away. [illegible] vent for waste matter should have a double [illegible] tion; [illegible] connected [illegible]

a draught-pipe passing through the roof; all pipes should be made of metal and not stoneware, as the latter is liable to crack and become loose at joints, and all such pipes should not be covered with masonry but be [illegible] noticed; "no waste from a [illegible] connected with a drain;" [illegible] Now, if the soil is [illegible] during a [illegible] pollution of the house drainage [illegible] objection being that deep wells, sunk in every yard, even if often emptied, will have a tendency to contaminate all underground currents of water and by saturating the [illegible] disease. It is to be considered, however, that this objection does

not have the same force as formerly, since this water drawn through pumps is no longer used in our city, and the matter which it contains, held as it is between the deep layers of earth probably undergoes a decomposition which renders it harmless.

A simple plan and, wherever practicable, perhaps the best, is the following: -- Let every house have at the rear of the yard a privy, constructed with [illegible] The superstructure may be built in ornamental [illegible] pleasant [illegible] [illegible]

emptied by an officer appointed for the duty as ga[illegible] is now taken, [illegible] carts, to an offal depot described hereafter.

By this means we avoid all the dangers which exist in [illegible] removed soon has no chance to pollute the air.

To make either of these plans effective, will require the enactment of a new law and its rigid enforcement, but when the health of the whole city is [illegible] action of the authorities, while opposed perhaps by the selfish and ignorant will receive the support of all thoughtful citizens.

So great is the danger to health which springs from bad plumbing, that the city should creat-

the office of inspector of plumbing, whose duty it will be to examine this work in all houses in course of construction and compel builders to have none but the best material used and this put together in the best manner. In order to make this inspection valuable it will be necessary for the city-council to pass an act making it an offence punishable with fine or imprisonment to do faulty plumbing work.

City Drainage:— No one is so competent to hand

in order that their efforts, not quite so scientific

d at least by study, common-sense and love

Situated on a

site as our city is, it must follow that this

it not for the miserable manner of paving

streets, this would not be very objectionable.

Suppose our streets were to be all paved with con-

suc

ject would be that all waste-water which

into them would be quickly carried away

e nearest sewer without having a chance to

in between stones, to stagnate, give rise to vegeta

be so paved in course of time. Between

[illegible] wagons are driven, the Belgian block pave-
ment may be laid as the best substitute for concrete.
[illegible]
[illegible] where disease begins which extending, may
decimate a city. Hidden from public view, all
manner of waste is thrown about in their
recesses to lodge in every crevice; pave them wit
[illegible]
[illegible] S[illegible]
[illegible]d streets, wherever necessary, that the water fro
[illegible]illy section may find exit, and by an in-
[illegible] in the corps of street-sweepers; the whole
[illegible]
[illegible]than is now required by the present force to scrape
[illegible] street in the usual inefficient manner.
[illegible]

follow the carrying-out of this plan, consider it

[illegible] No [illegible]

stagnant gutters, no more streets filled with grass, no more

[illegible]

[illegible] lovely city, a pleasure to the tourist and an everla[illegible]

[illegible]

But what is to be done with those horrible open channels of filth which, like Jones Falls, traverse the city, or, like the Basin, fester in its centre? The problem, so far as it has reference to Harford Run, has

[illegible]

der the city, tapping the stream near its entrance in

[illegible] No [illegible]

in progress and should be pushed rapidly that the unfortunate people who live in that section

may be received quickly.

If the same plan could be adopted for turning [illegible] from the city [illegible] beyond Boundary Avenue, it would be well, and this must be left for the surveyor to determine, but if this be not possible we will have to take into consideration what means will be best to adopt in order that this stream may, as now, receive the waste of the city and yet become harmless for evil. Our plan is, in brief, as follows:- Construct a large [illegible] or archway [illegible] Avenue, [illegible] city [illegible] it to empty into a much larger sewer which shall [illegible] to below Canton. The latter is to receive all the

waste of the city and conduct it to the mouth, which [illegible]

[illegible]

so that the sewage may be pumped out and be used [illegible]

[illegible]

depot to which all waste removed by carts &c. can be deposited also, and thus, all this matter which is now only used as manure, [illegible] the tide costs the country thousands of dollars an- [illegible]

[illegible]

To make this plan complete a broad dyke should be made at a convenient point near the [illegible] Basin. All water [illegible] pumped out rapidly, preferably [illegible]

and the depression thus left, being filled with low
may, in connection with Druid Hill, be formed
into a large and beautiful park of which the
city may well be proud. There are really
very few shipping-houses whose business would
be affected by this change and persons with
own wharves on the Basin may have privileges
given them on the dyke or along the south
side of the harbor where there is no lack of
room. This plan is submitted without com-
ment; [illegible]
its merits; its execution would cost much de-
lay and vast labor, but the change wrought by
it [illegible]
sult which would enable its citizens to call
Baltimore the most healthy, the most compact,
[illegible] the most beautiful of our cities.

Parental Care:- [illegible] ren which are brought upon them by the errors of parents, can only cease as men grow more enlightened and the knowledge of hygienic laws is more widespread. In order that this knowledge may rapidly increase it would be well [illegible] and writings free to all, to endeavor to educate the masses in respect to the rules of health. [illegible] more and [illegible] ter for the "coming race." Parents, who are the natural caretakers of their offspring, would then not have the excuse of ignorance in regard to

their children nothing, no careless nurse would be trusted with the care of their children, but they would say that [illegible] good, nutritious food and supplied with abundance of Heaven's pure air. Having the good of their own children at heart they will think also of others, and if [illegible] the door, will be [illegible] and to prevent it [illegible] is [illegible] [illegible].

Water Supply:— Among the essentials to [illegible] of a city is an abundant supply of good water, and although the city does well in supplying the use of pump water, yet they should take measures at once to furnish all parts of the city with an abundance of pure water, so [illegible] use and enjoy. A few costly fountains have been erected, here and there, for the use of animals.

chiefly, but what is needed is a large number of hydrants placed over the city as numerous as the fire-plugs, and in fact it would be well [illegible]

Medical Attendance:- [illegible] New York, in regard to the care of the sick poor, which it would be well to introduce here. A large [illegible] called upon by the Health Office at any time, for which they receive a stated fee from a sum in [illegible] the city affords, while on the other hand the best

[illegible]

to all the worst parts of the city and receive pay for their services.

[illegible]

to vaccination of persons is so efficient that a case of variola is seldom reported. If such a system were to be universally adopted, there seems to be no reason to doubt that Jenner's belief in the disappearance of smallpox from the earth would be realized.

Immediate Relief: [illegible]

the thousands of little ones who must every year fall victims to our city scourges? Yes, there is a measure of relief for them too.

[illegible]

direction, [illegible] are
really saving infantile life. These feeble in-
fants are city-sick and the only relief is to take
them away from the cause and keep them
away until well. The late Thomas Wilson made
[illegible]
may be kept; and this is just the relief they need.
[illegible]
city who, during the tender years of infancy a[illegible]
[illegible]
into an early grave.

Friends, what are we

doing in this matter? Are we to fold our hands in indifference while from every side, the air bears to our ears the piteous wail of the dying babe? Dying for want of pure air, dying for want of attention, dying for the want of that knowledge which the physician only can apply. Let us [illegible] put forth every effort to learn the true causes of this fearful moriality, and when found, let there be no rest until until we have en- [illegible] and that of the infant is as precious as any. Let us therefore, devote our time and talents to this work and succeed or fail, we shall feel the satisfaction that our lives have been devoted to the progress of science and the welfare of mankind.

O. Edw. Janney.

Finis.

A

Thesis

on

Pulmonary Phthisis

Submitted to the

Medical Faculty

of the

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for the degree of

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J. M. Volkmar.

1881

Phthisis Pulmonalis

Pulmonary Phthisis is a tuberculous disease of the lungs; but if they exist in the lungs to any extent you will find tuberculous glands all over the body and may then properly be called Tuberculosis.

Anatomical Character.

The health of the person fails from the cause existing in the System, which causes the blood to be depraved and so causing improper Nourishment of the body which will cause emaciation and losing of the vital powers.

The first appearance of the

tubercles in the lungs are small and vary from a grayish to a yellowish color. These tubercles are scattered through the lung tissues of varies sizes from that of a pin head to the size of a pea, and often appear in great number through the lungs; they are usually grayish in color but not necessarily so. A number of these tubercles may close around a part of healthy lungs which prevents the air from entering, and so consolidating it, which then may undergo softening, form pus, and open into one of the bronchial tubes,

discharge its contents and leave a cavity. These tubercles in the lungs often cause great irritation, acting as foreign bodies, and setting up inflamation of the structures around.

Tuberculous matter may be deposited in the areolar tissue of the lungs in irregular masses, and causing the softening of more pulmonary tissue.

In these tuberculous masses no trace of pulmonary tissue can be detected without the aid of the microscope.

In some the remains of blood vessels, bronchial tubes, &c, can

be detected, and may also be partially penetrated by air during respiration.

The progress of these tubercles gradually increase by new accretions. The next change of these tubercles is softening; these tubercles begin softening and breaking down the surrounding tissues, and gradually enlarging; which is then a yellowish mass, resembling pus to some extent.

According to some authorities softening of tubercles in infants is rare; and increases in frequency as age advances.

when the tuberculous matter is in the process of softening, and breaking up the lung tissue, it may ulcerate into a bronchial tube, and thus finding a way out discharge its contents, which is expectorated and so leaving a cavity in the lungs; which may heal and partly cicatrize, and leave a permanent cavity there; but generally it does not take such a favorable course, because the surrounding parts are partially injured, which undergo softening still farther, and discharging their contents

leaving large cavities or lon-
cicaes of very irregular shape
and dimensions.

The most frequent seat and
in a great majority of cases
the tubercolous deposition is
in the upper part or near
the summit of the lungs;
but may begin elsewhere
which does not unfrequently
happen, and so making diagnosis
very difficult.

The tubercles begin at the sum-
mit of the lungs and gradually
extend downward, so the upper
lungs is farther advanced than
the lower portions.

Some times one whole lung is solidified, and in the middle of this are found cavities.
Where the lungs are breaking down with tubercles, there are almost always adhesions between the pleura. The tuberculous matter is also some times discharged into the pleural cavity, and if this be in relation with a bronchial tube, air is easily forced into that cavity, which causes Pneumothorax, which increases the danger of that case.
Small ulcers are often found in the trachea or bronchial

tubes in Pulmonary Phthisis.
When tubercle is found in the lungs to any extent you will find tubercles in other parts of the body; which are chiefly found besides the lungs, in the peritoneum, but mainly in the Messenteric glands; Intestines, Stomach, liver, Spleen, kidneys, Meningies, and other lymphatic glands in the body.
The Mesentary glands may enlarge, soften, and break and their contents discharged into the peritoneal cavity, and causing fatal peritonitis.

Symptoms.

In the course of Pulmonary Phthisis, Authors generally consider two stages; One preceeding the Maturition of the tubercles, and the other following the Maturition. It is some times difficult to diagnose in what stage a case is, but by observing its course for some time it may be pretty accurately judged.

Most frequently the first symptom of Phthisis is a continued, short dry hacking cough; commencing slightly and increasing in severity,

which is after a time follow=
ed by expectoration, first
of a transparent mucous
then after some time by a
yellow or white opaque matter
having some resemblance to
that of common catarrh.
The first symptom is not
invariably the cough above
discribed; Phthisis begins
in varies ways, but the
most frequent is the hacking
cough. At the beginning of
the disease, there is but
little derangement of the
system. Appetite is good,
and there is in general no

noticable change of the normal condition of the System.
The pulse may be slightly accelerated, and as the disease advances the person affected feels febrile sensations towards night. which is generally well marked in Phthisis. The increase of temperature towards night, which generally ranges from 102 to 103 degrees (Fahr) and from normal up to 102 degrees in the morning is a valuble diagnostic point for this disease. The patient generally complains of some pain about the Sternum, Emaciation progressing, and

hemorrhage from the lungs may set in at this period. After an attack of hemorrhage the patient seems to be relieved to some extent, but hemorrhage recurs now an then again, which breaks the patient down rapidly. Cough becomes very troublesome at this time, and disturbing the sufferers rest. The expectoration at this time partakes more of a purulent character, and the dyspnoea, thoracic pains, fever &c increase in intensity. Appetite is impared, there is lassitude and loss of strength, which

generally causes the patient not to take enough nourishment, and also more or less confine himself, which is so injurious in this disease.

Very troublesome night sweats set in about this time which are exhausting and hastens the termination of the disease. These symptoms last an incurable time. When these symptoms are present the first stage is about at an end, tubercles being matured, and the second stage setting in. The second stage comes on gradually to the precise time

of its commencement cannot be diagnosed. In this stage the lungs is softening, and cavities forming, expectoration copious, and fever increasing, and is very exhausting, or hectic. The sputum resembles pus with tuberculous hard masses in it which prove that a cavity has opened. This purulent and tuberculous expectoration is the best sign to tell when the second stage has begun. If the sputa sinks in water it is a pretty sure sign of it being tuberculous. All the symptoms

increase in severity. Hemorrhage may occur now and then but not so frequent and profuse as in the first stage. A decidedly exhausting diarrhea sets in, with also derangement of the whole digestive tract, as anorexia, nausea and vomiting, & which increases the loss of strength and emaciation. The patient gets so weak after while that cough and expectoration stops, and the accumulation of the matter carries off the patient. Cough is the most disturbing symptom of pulmo=

nary Phthisis, but although is altogether wanting in some cases. Dyspnoea is sometimes pretty severe, but generally not amounting to a very grave symptom. Hemorrhage from the lungs is one of the most prominent symptoms, and of great diagnostic value in Phthisis. Hemorrhage generally occurs when the breaking up of the lung tissue takes place; but sometimes begins before this takes place even when no other symptoms noticeable. Haemoptysis in the majority of cases is slight, but in some cases is very profuse

amounting to pints. The attacks of hemorrhage in some cases frequently recur, and others once and not again, and in some not at all, of which I have seen several cases in the Wards of the Hospital last summer. The hemorrhage is caused by the tubercles which cause the rupture of the supplying blood vessels and so causing hemorrhage. It may be pretty safely said that when a person spits blood copiously, with a chronic cough and emaciation that the lungs are undergoing tuberculous degeneration. Hæmoptis

generally indicates unfavorable prognosis. The hectic fever causes free perspiration in the night which are commonly known as night sweats. The person commences to emaciate decidedly now. If emaciation exists in a person and no cause to account for it, and other symptoms of Phthisis present, it may be said with considerable safety that Pulmonary Phthisis exist in such a case.
The debility is greatly increased by being accompanied by diarrhea, loss of appetite &c. Diarrhea as a rule first

shows its self in the advanced stage of Phthisis. Diarrhea is probably caused by the formation of tubercle in the intestines. The whole system is disturbed. In females there is generally suppression of menses.
Lactation favors the production of Phthisis especially if it is prolonged.
Certain complications may arise in this disease such as Pneumothorax, tuberculous Meningitis, Pneumonia, Pleurisy &c; the latter two are nothing uncommon in the course of Phthisis.

Physical Signs.

There is some dullness on and around the clavicle in percussing; which is generally limited more to one side. The is a feebleness of the respiratory murmur on the affected side. On the other side the murmur is increased because more air is forced in on that side. The more the tubercles increase the more the respiration becomes bronchial, and prolonged expiratory murmurs, which is a striking characteristic of tuberculous deposition.

At this time the inspirations are more broken and jerking. Vocal resonance is increased and sonorous, sibilant, subcrepitant and mucous rales are heard on auscultation. There is less movement on the effected side than the healthy in respiration. If there are bronchiae in the lungs, there is amphoric respiration, detected on auscultation. The duration of Phthisis is invariable; its fatal termination may come on in a few months, or may last many years. The majority of cases terminate between six

months and two years.
Some persons improve in health in summer, and lose again in the winter; so prolonging the fatal termination many years. This is probably due to the liability of taking cold in the winter, and also being more confined to the house; while in the summer there is generally more exercise in the fresh air.

Causes. Phthisis is probably dependant on a bad state of the blood, which fails to bring the proper nourishment to the tissues of the

body, and so causing the tuberculous degeneration. The chief predisposing cause is inheritance, especially if both parents are consumptive. The other causes are frequent attacks of taking cold, which disturbs the nutrition and creates a cachectic state of the system, which leads into the tuberculous degeneration. Sedentary habits, as bad air insufficient amount of exercise, bad food and clothing, and the various other debilitating diseases &c. A damp and variable clim=

ate is favorable for its pro=
duction. Other diseases act
as causes by leaving the
system in a debilitated cond=
ition, and others acting as
irritants to the lung; such
as the various pulmonary
diseases.

Diagnosis. The is only
at the commencement of
the first stage any diffic=
ulty of arriving at the cor=
rect diagnosis. When there
is a short dry cough conti=
nuing for weeks or months,
accompanied by mucous exp
ectoration, and more or less ema=

ciation, there is reason to suspect tubercle; and if this be accompanied by frequency of the pulse, shortness of breath on exertion, and one or more attacks of haemoptisis, and in connection with these the be dullness on percussion in the Subclavicular region, and a deviation of the healthy respiratory sounds, &c, would render the existance of Phthisis quite certain.

Bronchitis bears the nearest resemblance to Phthisis, and is probably more liable to be confounded with this. Bronchitis if sufficiently severe to impair the

general health, is accompanied by more fever than Phthisis. In Phthisis fever comes on more gradually; and if Bronchitis is not so severe it does not present the emaciation and haemoptysis of Phthisis. In bronchitis the auscultatory signs are more spread over the lungs than Phthisis, which is more confined to the upper portion of the lungs. The dulness on percussion beneath the clavicle which is so common in Phthisis is wanting in Bronchitis. Where the lungs are disseminated by Milliary tubercles, when it has the closest

resemblance to bronchitis, it is some times very difficult to make a diagnosis. When there is a persistant mucous and submucous rale for a long time throughout one or both lungs, with emaciation, frequent pulse, night sweats, haemoptisis &c, would no doubt indicate the Milliary variety of tuberculosis.

Chronic pneumonia might bear some resemblance to phthisis, but may readily be distinguished; as phthisis begins in the upper part of the lung, pneumonia occupies the lower part, also the history would distinguish

them. The prognosis of phthisis is in the great majority of cases fatal; although some get well of it. Some times cavities form which heal and cicatrice, and the patient have a complete recovery. Phthisis is a very frequent disease and more deaths are caused by this than any other one disease. Here in the City of Baltimore probably more than 25 per cent of all deaths are caused by pulmonary phthisis; and in some other large cities still more.

Treatment.

This must be to prevent the

farther progress of the tubercles, So the object of treatment must be to enrich the blood, and restore vigor to the general system. The remedy best adapted to this is exercise in the open air, and hygienic rules of long continuance; which is better than any medicine. The patient must clothe himself well to prevent exposure to the changes of weather. It is advisable for him to wear flannel next the skin, to prevent sudden changes of temperature, which increases the danger of this disease. The depressing effects of

the intence heat of summer is about as harmful as the coldness of winter. If a patient could change for a colder climate in the summer, and a warmer and dry in the winter it would be advisable for him to do so. The regulation of diet is also an important part of the treatment; As the system is in a low debillitated condition, the patient must use the most nutritious articles of food, such as milk, eggs, and the various farinaceous preparations, and some of the lighter meats &c.

Medicines are of more or less value in phthisis, but if the above mentioned hygienic rules are not obeyed, not much if any good may be expected from them; but with plenty exercise, regulation of diet &c Medicines sometimes have a marked influence in restoring to health. The medicines used are mild tonics, of which the wild cherry bark is recommended by many; instead of this the preparations of Gentian Columbo, Quassia, or any of the bitter tonics may be used. The various preparations of Iron are

sometimes very valuable; but the medicine now generally used and probably with the greatest success is Cod liver oil continued a long time. "Cod liver oil has done more good in pulmonary phthisis than all the other medicines combined" says Dr Williams. It improves the color of the face promotes nutrition, and improves all symptoms; but generally phthisis continues in spite of any medicine. Cod liver oil is generally given in the dose of a teaspoonful to a tablespoonful. If it agrees with the

patient it is the best thing he can take. These are the medicines generally used to prevent the progress of the tubercles. Then you may give medicines to ameliorate the symptoms if they are very bad. If the cough is very severe and disturbs the patients rest, you may then give some of the preparations of opium, balladonna, Hoffmans anodyne &c. The night sweats which are so very troublesome in some cases, may be alleviated by some of the acid preparations, such as Aromatic Sulphuric, Nitro-muriatic, or some of the astr-

ingents as oxide of zinc, or in combination with ballad=onna acts very good.

Diarrhea which is so common in the latter stage of phthisis, and many times so severe to cause great exhaustion, must be stoped by opiates, chalk, and the various astringents used in common diarrhea.

A Thesis

on

"Cholera Infantum."

By

James S. Lafferty,

of North Carolina.

Class of 1881.

Cholera Infantum.

This is a disease of infancy, characterized by frequent watery stools, accompanied by vomiting, great elevation of temperature and, with rapid and great emaciation.

Of the diseases of childhood and especially those occurring in the summer months and in the warmer portions of the United States, few are accompanied with a greater annual mortality than Cholera Infantum, or as it is sometimes called Choleriform diarrhoea.

It is the summer complaint of infants, and it is one which the Physician dreads about as much, if not more than any disease with which he will have to contend in Infantile practice. It seems from

statistics that it is very prevalent in certain countries and localities when by a close examination we will find that the physician gave the name Cholera infantum to nearly every enterocolitis or inflamatory diarrhoea and in this way greatly increases the number of cases of this disease, while in other localities the physician, rightly, only calls those cases Cholera infantum which are characterized by frequent watery stools, obstinate vomiting, great elevation of temperature and rapid and great emaciation. It is a disease of very violent symptoms closely resembling those of Uraemic

Cholera, and from which disease it can scarcely be distinguished, especially if there is an epidemic of the latter.
It occurs during the season of the greatest heat, generally in the months of July and August but we may have cases occuring at any time from May until October. It is of common occurrence in our large cities, especially where the children are under bad hygenic regulations where they are kept in close crowded rooms, where they do not get the pure air and genial rays of the sun so conducive to the health of all. And especially do we find it occuring among the poorer class where they have

bad food and not enough of clothing to protect them from the vicissitudes of the weather. But we cannot say that these are the only ones subject to the terrible disease, for we find it attacking those in the best of circumstances and who have all the comforts of life about them, so we see that there must be other causes. We might divide the causes into two heads, first, the predisposing, and second, the exciting causes. Under the first comes the great heat with all of its lowering influences, the cool damp nights, and great change of temperature, and under the second all kinds of indigestible and irritating

food, and when we have the two combined we are almost certain to have a typical case of the disease, whether it happens in the crowded tenant house of a filthy city or in the palace of the nobility. And hence it is that we see the disease so often in the bottle fed infants of the cities, in those who are allowed to eat all kinds of fruits and vegetables and every kind of indigestible food, half cooked, or perhaps the milk is kept until it has fermented and not fit for use, and the delicate stomach is made to digest what is forced upon it. It is most common about the age of one year, not common over

the age of two years and under four months. We generally find it attacking children during their first dentition, and for this reason some have thought that teething was a cause but this is an erroneous idea. It is not caused by teething, but as it is at this time of the childs life that the intestinal follicles are in a more rapid state of development, at this period of infantile life we find the child more liable to attacks of diarrhea and all inflammatory troubles of the intestines, we can say that it is not due to teething but to a peculiar structure of the follicles. Thus we see that we cannot be too careful at this period

of infantile life, about the diet of our little patient, and often more can be accomplished by change and regulation of diet than by medicine. In some families there seems to be an hereditary disposition, and we see it most common in male infants.

Symptoms. The first symptoms of the disease is a profuse diarrhoea the stools being very fluid, of a light color or of a pale green. There soon occurs, if not at the same time with the diarrhoea a great irritability of the stomach, every thing taken into it being rejected immediately and with great force. Vomiting is a prominent symptom and in most cases continues

throughout the attack. The disease does not always come on so abruptly as this, but for some weeks there may be a diarrhoea or a simple looseness of the bowels and gradually emerge into the very violent form.

It happened to my lot to see a case of this kind last summer during the month of August. For some days the stools had been thinner than natural and quite frequent but did not seem to trouble the child much and did not seem to be of much consequence and caused no alarm to the parents. When suddenly the evacuations became very frequent and watery, vomiting of the most obstinate kind set in, the child

began to sink so rapidly that the family physician was called. Great cerebral disturbance set in and in a short time death ended the scene.

After the diarrhoea had run on for some time the stools become almost colorless; nearly like water, scarcely coloring the napkin and are discharged without much effort. There is usually some tenesmus. There is always great elevation of temperature, sometimes it runs as high as 108° and nearly always up to 104° or 105°. The pulse is very quick, and late in the disease the respiration is very much accelerated. This is due very likely to the feeble contractions of the heart and causes

pulmonary congestion and sets up a great inflammation which is a very prominent symptom in fatal cases. There is intense thirst, the little patient seizing hold of the cup and drinking as if it was almost perished and in a few moments vomiting what it has taken nearly unchanged.

The abdomen is not tender on pressure as in most intestinal diseases; the abdomen is very much sunken in, and owing to the great loss of fluids from the body. The skin is dry and lies in folds, and if we gather up a piece of skin between our fingers it will remain for a time and it remains if it had lost all its life. Often we find the

tongue in first stages clean and moist but generally there is a white slight fur, and afterwards becomes dry and brown. After the first day the fever remits in the morning and rises in the evening, the head hot and extremities cold. After second or third day the temperature runs up very high. In the latter stages we may have complete coma. The tongue and extremities become cold, and if death does not overtake the little sufferer the disease may pass into a protracted entero colitis. The same is nearly as a general rule. The loss of strength and emaciation is very rapid, so rapid that we would scarcely recognize that pale and ghastly looking face before

and now to be the same round, plump, rosy little face which we saw but a few hours before. The eyes are sunken the mouth and eyes are open and it seems as if the muscles have lost their power to close them, and the little creature seems almost insensible to those around.

Anatomical Characters. About this there is great discussion some hold that there is no inflammation of the Alimentary tract, but an increased discharge of the secretions of the intestinal follicles and of all the whole mucous tract. While others hold that there is the most violent inflammation. The latter class claim that as there is no inflammation or lesions found in some cases after death, that acute inflammation

of a mucous surface subsides immediately after death, and therefore at the post mortem no lesions are found, although they were there during life. There are those who say and will find a softening of the stomach and no lesion of the intestines others that we will find a lesion of the tract and no softening of stomach. and others that we will find both lesion of intestinal mucous membrane and also softening of stomach. In some cases we will find not the least sign of any lesion in the intestines is at least none to explain the gravity of the symptoms. There is a great discharge of serum into the alimentary canal caused by a disturbance of the great sympathetic nerve.

In this fatal discharge of serum occurs from the disturbance of the sympathetic nerve it seems to differ from the other catarrhs of the intestines.
Death may occur at almost any time of the disease and there are those who have divided the stages of the disease into three classes or periods according to what they find by examination after death. At a certain stage when an autopsy is held we see a swelling of the intestinal follicles, and a softening of the mucous membrane. This is called the first stage; and if the mucous membrane of the intestine is found to be very vascular and somewhat softened and Peyer's patches slightly inflamed or

ever sometimes ulcerated this is called the second stage. If we find the brain very much congested and an effusion of serum upon the surface of the brain and in the ventricles we call this the third stage. And from the symptoms which we know would arise from each of these lesions we can determine with accuracy what stage the disease is in.

Dr J. Lewis Smith says that it was once his opinion that this disease was essentially non-inflammatory, but if it was not checked it soon became inflammatory. But he is now of the opinion that it is the most violent inflammation to which infants are liable in our climate.

There are those who do not think that there is inflammation, but that there is an increased discharge of the secretions of the intestinal follicles. The vomiting and diarrhoea seems to be due to a kind of indigestion or the taking of food not suitable for the patient, but in most of the cases there seems to be something else at work besides indigestion for we have such a great evacuation of liquid serum, and in such abundance, that it shows that there is a hyper-secretion or morbid transudation into the stomach and intestines, and the great question to be decided is where does all this water and serum come from and what caused it to flow in such abundance. It seems that it secrete

through from the blood and in this way rob the system of its water and this is the cause why we so soon have the pinched face and the senile countenance.

Diagnosis. It is often difficult to diagnosticate between the various intestinal inflammations of children and Cholera infantum, and it is very difficult and almost impossible to make a differential diagnosis between Asiatic Cholera with its rice colored discharges and this disease. We may distinguish it from the common diarrhoea of children by the frequency and character of the stools, these being very frequent and watery, and passed with great force, and are so thin and watery as to pass right through or soak into the diaper.

In the beginning of the attack the stools contain fecal matter but after a while they are entirely deficient in this and are perfectly colorless and odorless. We may distinguish this disease from the other diarrhoeas, by its being accompanied by obstinate vomiting and very great thirst. Late in the disease we may have great cerebral symptoms, but it has been thought and upon good grounds, that as there is no scantiness of urine or even a suppression that these grave cerebral symptoms are due to uraemia. When we have cerebral complications we may distinguish them from Tubercular Meningitis by torpor of bowels and the gradual cerebral disturbance from the first. But when we have these great head

symptoms the cases generally terminate unfavorably.

Prognosis. never free from danger, and it is best always to be guarded. It generally does its work in a few days, generally three or four. In this time generally it will end in recovery, death or and chronic entero-colitis. The greatest danger is from collapse. It is always best to be careful about expressing yourself as to the prognosis.

Treatment. The first great thing in the treatment is a change of air. Remove the child to a healthy country locality and give plenty of fresh air. If the diarrhoea is caused by something eaten and we have reason to suspect it is still in the bowels we might give a small dose of Castor oil

or syrup of Rhubarb, aromat. but this is not generally necessary, for we are generally called on to check the diarrhoea and vomiting. At first we should try to quiet the stomach by giving milk, limewater and creasote, if this does not have the desired effect we might use Sydenham's Tinct Opii gtt j, Arom Sulph. Acid gtts ii and warm fomentations over abdomen. If this fail often good results follow the administration of Calomel in ½ gr doses every half hour until several doses are taken. After we have quieted the stomach give opium Bismuth and Chalk, a good formula is the following from J. Lewis Smith

℞ Tinct opii deodorat gtt xvj, Bismuth Subnit ʒij Syr simplic ℥ss Mistura Cretae ℥iss Sig for

infant one year old one teaspoonful every two to four hours. The Compd Tinct of Opii is a very eligible form of opium, for a child six months of age order ten or twelve drops every three hours. The Compd Powder of Ipecac is also a very useful preparation of opium it should be given in doses of three fourths of a grain to a child of one year. The Subnit of Bismuth is very valuable, for it not only checks the diarrhoea but it acts as an efficient antiseptic and antiemetic. In case of Collapse restore warmth by flannels and by rubbing the body with dry mustard, and the use of stimulants. Give Tinct Opii by injections, give ice when there is great thirst, and cold drinks, a little weak brandy and Spiritus Mindereri. Keep the

epithemata warm by flannel, bottles of hot water and by friction, use poultices of flaxseed and mustard to abdomen. The hot bath is very useful but if there is much collapse it causes too much disturbance of child by undressing and dressing. But if we can use it it will do good. When there is a change for the better or reaction stage comes on we must give a little good nourishing food such as cold chicken tea, milk and limewater, raw meat said to be very good by some if child is old enough to digest it, and keep the child quiet. If called in case of collapse, rub child all over with dry mustard and flour, and use hypodermically a few drops of Dover's Pill or Opii in water,

and some good old brandy. This is good treatment when the child cannot retain anything on its stomach.

A Thesis

on

"Intermittent Fever."

By

Woodson B. Fearing.

of

North Carolina,

Class of 1881.

Intermittent Fever.

Synonyms:- Ague: Chills and Fever.

Definition:- "A specific non-contagious fever, produced by malaria; characterized by enlargement of the spleen and recurring attacks of fever attended each with a cold, a hot, and a sweating stage; and having an indefinite duration, and a tendency to recur, which may last for many years or during the whole of life."

Causation:- The specific nature of the malarial poison is as yet unknown and undetermined. We find it more or less regularly spread over the entire non-agueous portion of our globe, and it can even be found in some of our waters, which have a de-

cided absorptive action upon it. In certain districts it is more generally diffused than in others, and its deleterious effects are more obvious. In nearly all the Atlantic states, in some of the interior states, and particularly along the banks of the Mississippi, we find it in its most virulent forms. In low lying districts, in marshy land which is subject to rise and fall of the water, and particularly when it is brackish, malaria exists to a wide extent. In thickly settled cities, and in the country where the soil is being constantly utilized for the production of grain &c, it is not so abundant; nor do we find it in elevated regions, on the moun-

tains or hills which are about five thousand feet above the level of the sea. It seems to be generated or manufactured in the soil of our tropical states, where moisture and heat combine to assist in its production; and it is most potent when animal and vegetable matters are allowed to decay together. With the evaporization of moisture it rises as a mist from this soil and does its terrible work. We find it has a decided tendency to cling to the earth, and is denser in the substratum of our atmosphere than in the rarer medium. This is evidenced by its effects being seen most frequently in persons sleeping on the ground floor of their dwell-

ings. By the winds it may be carried from an infected area to one that has never felt its effects. It is generally transported over planes, as elevations impede its advance. In passing over a sheet of water it is absorbed, and this water, if drunk, will produce chills and fever. Vessels, however, laying at a little distance from the land in which this paludal poison exists in great abundance, or in a running stream, are comparatively safe. Ships at sea are never troubled with it; and people may live with impunity on the bank of a river opposite to a malarial region. A belt of trees seem also to stay it a meas-

are its unwholesome visits; they acting to resist its propagation by performing the work of a filter, or kind of sieve. We find a temperature of from 60°F. to 70°F. most conducive to its production and full developement, and hence the complaints against it are most frequent in the late summer, and in the Autumn. The growth of certain trees is said to exert a protective influence against it, and with this view the "Eucalyptus Globulus" has been grown in infective areas. This tree has a terrible abundance of spongy roots which, it is supposed, act to absorb the poison. To the Cypress or of the Dismall swamp are indebted

for our exemption from its effects.

It has been supposed to be a gas resulting from decaying vegetable matter; and well might this view be credited, since we find that in the upturning of soil that has been uncultivated for some time, and in places where no malaria existed before, it is originated. But against this theory we have the non-occurrence of the disease in places where abounds decaying vegetable matter, and also the occurrence of it where the specific influence of such matter does not exist. With these facts we lay aside the theory of its gaseous origin from decay vegetable matter, and accept more plausable and

recent views. Dr. Salisbury, of Ohio, by his experiments and observations in 1866, discovered, as he believes, the chief factor in the causation of our periodic fever. He found in the spores of certain algae, species of the palmellae, minute and microscopic plants which are cryptogamic, and to these he attributes the peculiar power of producing our malarial affections. This he believes to be the specific cause.

Dr. Bartholow in his "Practice of Medicine" recently published, says: "The presence of a morbific principle in the atmosphere, which is developed when certain atmospheric and telluric influences exist, is generally admitted, but the attempts to isolate it have proved abortive unless the re-

cent discovery of Klebs and Tomasi Crudeli supply the missing form. The 'Bacillus Malaria' which they discovered floating in the atmosphere of the Pontine marshes produces paroxysms of intermittent fever in the animals subjected to its action by inoculation."

The favorite view is that it is a living thing of microscopic appearance, with the property of reproduction, of short life, and exists in the air an intangible yet effective agent.

True it is that when the specific nature and true origin of this ague producing agent is discovered, and we understand the aetiological factors of the malaria, we shall have advanced to the most

prominent position for the total eradication of the disease.

Deducing from the above, and last theory, its most convenient entrance into the body is by inhalation, and then absorption by the pulmonary membrane. This gives it a ready transportation to every part of the system. We also have as a ready means of admission the alimentary tract, the paludal poison entering with the food. Nor do we deny the possibility of its entrance thro' the skin. Once admitted, their action is directed, without doubt, to the nervous system, and gives rise to fever of an intermittent or remittent type, followed by permanent organic change if allowed to continue

for any length of time. The viscera of the abdomen seem especially to be affected, and principle among these are the Spleen, Liver, and Kidneys. In acute cases of intermittent the spleen is much congested and enlarged, is pulpy, and may undergo softening; in chronic cases we have enlargement, with change of color, due to pigment deposit from disintegration of the blood corpuscles, when this abnormal hypertrophy remains it forms our well known ague cake.

The liver is congested and changes color from a bile pigment deposit along the vessel walls. There may be produced a jaundice by this hyperaemia of the liver, and biliary pigment deposited

in the parenchyma of the organ.

The kidneys are alike hyperæmic during the acute attack of intermittent, and may undergo subsequent alteration in structure. The tubules are filled with cast-off epithelium cells.

The whole alimentary tract may be congested, and an alteration takes place in the glands.

With this congestion of the abdominal viscera there exists a great tendency to ascites, which disappears with the extermination of the disease.

The brain and spinal cord share in common the congestion, and perhaps share in the pig[illegible] deposit. True it is that repeated attacks of [illegible] induce,

in a measure, the activity of the brain cells, and the mind is not in healthy action.

Then a train of minor effects, prominent among which are, neuralgic affections, palpitation of the heart, & diarrhoea, all of which tend to assume a marked periodicity. Also we have affections of various and different origin assuming this periodicity when the patient is al-all cachectic. In some Malarial districts impotency in particular men is attributed to the effects of this poison. Intermittent fever is more frequently met with in men than in women, and oftener among the white than the negro. Individual susceptibility is increased by depressing circum-

stances, and sudden appearance in a malarious region. Sudden changes in temperature, exposure in early morning and after nightfall render one more liable to it. The middle aged are therefore more liable to it than the young and old, since they are more exposed. The period of latency of the telluric poison is indefinite, the average time after exposure before the symptoms are developed being fourteen days.

Varieties.

Intermittent Fever follows a definite law of periodicity, and thus the varieties depend upon the length of interval between the paroxysms. The interval is that period

which exists from the beginning of one chill to that of another. Hence, 1st Quotidian, interval hourly four hours, paroxysm daily. 2nd Tertian, interval hourly eight hours, paroxysm on alternate days, 3rd Quartan, interval seventy two hours, paroxysm every third day. These are the three principle varieties. We also have quintan, sextan, septan and octan, the last being most often met with in this enumeration, as also the most intractable. Then rare still we have what are termed double tertians and double quartans. The quotidian and the tertian are the most frequent occurrence, and of these two forms the tertian is the most common; the octan is not unfrequently met with, while the others are rare.

In the quotidian the hot stage is longer than the cold, in the quartan the reverse obtains, while in the tertian these two stages are about equally divided.

A paroxysm consists of three well marked and successive stages, the cold, the hot, and the sweating.

Stages.

1st Cold – There are certain prodromic symptoms of variable duration, and prominent among which are lassitude, general uneasiness, yawning, headache, loss of appetite, great thirst, and gastric derangement, with an expression of general discomfort. As these advance evidences of chilliness are manifested. A creeping sensation with slight shiv-

ing is the immediate forerunner of the fever, and with these the patient readily seeks his bed. There are slight pains in the back, which gradually spread over the entire frame. The tips of the fingers and the lips may become blue, and the countenance is pinched and indicative of suffering. When the rigor is fully developed there are convulsive muscular movements of the limbs and body, chattering of the teeth, and a desire to be well covered with bed-clothes. The skin is dry and papular, and the urine is abundant and of high specific gravity. The thermometer indicates fever, and in fact the temperature begins to rise at the outset of the attack, and continues to rise till the close of this stage,

when we have a temperature of from 105°F. to 107°F. The pulse is frequent and small and often irregular, respiration is hurried and prolonged - The senses may or may not remain clear. The length of this stage varies greatly, lasting from a few minutes to two, three, or four hours. The average duration is about three quarters of an hour.

Hot-Stage - The transition from the cold to the hot stage is generally gradual. There is a fading away of the rigor, and by degrees the sense of chilliness is replaced by that of warmth. The pinched features yield to pleasant feelings, and the patient begins to feel a sense of comfort. This feeling of warmth increases, and the face bears an expression of excitement. The skin becomes

hot, dry, and harsh to the feel, the pulse gets fuller, stronger, softer, but continues fast. The eyes are injected and sparkling. The mouth is dry, tongue furred, and thirst increases. Indisposition to food augments, nausea remains, and perhaps there is vomiting; the headache grows more intense and of a throbbing nature, and mental confusion is not uncommon, and even delirium may supervene. The urine is passed frequently, is of a greater specific gravity, and deeper in color. Temperature remains high and may advance.

This stage lasts from two or three hours to sixteen or eighteen, the average length being from four to six hours.

Sweating - This is also gradual, and is introduced

by a general approach to comfort, due to falling of temperature and subsidences of other symptoms. Perspiration first appears about the head, and rapidly involves the whole body. The temperature falls rapidly, but regularly, under these profuse sweats, the pulse grows slower and soft, respiration becomes normal, and there is a critical urinary discharge, and a brick-dust like sediment or deposit formed in it upon standing. The patient generally falls into a sweet sleep, sweats profusely, and awakes with a feeling of comparative comfort. There is no definite length of time to be assigned to the sweating stage.

There is an intermission or time

of apparent health which lasts from the cessation of one paroxysm to the beginning of another. There will be during this period some headache, want of appetite and of good digestion, and the patient may feel some depression or fatigue.

Of the three stages occasionally one or two may be wanting, and the other or other appear with great regularity.

Dumb-ague is the popular name given to an attack in which the chill is absent or obscure, the other symptoms appearing periodically. Then we have what is termed pernicious fever, which form is extremely dangerous. We have only to do with the ordinary type.

Prognosis.— Though sometimes tenacious, our ordinary intermittent almost never proves fatal in our day. Sometimes it will work its own end when left alone. Tertian ague is most easily cured, quartan the most obstinate. The great tendency for ague to recur at the end of one, two, or three weeks must be remembered. In the pregnant woman it must be dispatched with quickness, its effects being to prevent the developement of the foetus.

Treatment.— During the cold stage our efforts must be to bring about a speedy reaction, and to give our patient as much comfort and relief as is possible. For this purpose we have many agents, chief

among which are: Nitrite of Amyl, by inhalation; Chloroform, by the stomach, and by inhalation; Morphia and pilocarpine, hypodermatically. The injection of from gr. 1/12 - 1/6 of pilocarpin will substitute for the chill a sweating stage, and thus prevent the full evolution of the paroxysm. But, and this and the most remarkable point is, that the disease seems arrested, and relapse prevented in a number of cases by the employment of this drug. It should be given as the chill is about to occur.

The hot stage may be palliated by cold and effervescing drinks, these acting as diaphoretics, and laxatives.

The sweating stage needs no other attention than to guard against a relapse by protecting the patient from sudden chill.

our attention is chiefly directed to the prevention of further attacks, and the great part of the treatment is during the interval. We fortunately have remedial agents for this malady which are almost unfailing. As true specifics we have the alkaloids of cinchona, and arsenic. There is no difference of opinion as to the efficacy of these drugs, but there is in the mode of and time for, their exhibition, and the dose. Of the alkaloids of cinchona bark quinine in the form of the sulphate is undoubtedly the most efficacious, and is to be preferred to the others because of its greater strength. There are two principal methods of giving quinine. One is to give in a single large dose before each paroxysm is expected; the other is to give in small doses

at comparatively short intervals. Some give in a large dose just after the hot stage, thinking thus to get the vantage ground of the telluric poison, it having spent its force in the production of the stages. It appears that the plan of exhibiting quinine in one full dose a sufficient time previous to the expected chill for it to have its maximum effect by the time of the chill, is that which is generally adhered to by the most prominent authors. The dose when these given is some grs XV ad XX The quantity given in a day should not exceed grs. XXX, (except in the pernicious form of the disease) however given. It is well always to precede the quinine with some aperient to clear the bowels, the drug acting better under such circumstances.

Quinine, having the most universal alliance, will be used in preference to any other antiperiodic if obtainable. Among the other antiperiodics we have the other alkaloids of cinchona, salicylic acid, Eucalyptol, iodine &c. This last drug seems to be coming into some repute as a specific in our ague, and is used to the exclusion of quinine by some physicians. A convenient method or form in which to exhibit it is in Lugols solution. The combination of iodine with carbolic acid is highly efficient. In cases of chronic malarial poisoning with frequent intermittents the combination of iodide of Ammonium and arsenic is very efficient. Arsenic may be exhibited alone in the form of Fowler's solution, (gtt v t.d.) or in combi-

nation with quinine, when we use the arsenious acid. This latter is more especially adapted to the relief and removal of morbid alterations caused by the malaria. For enlarged Spleen nothing, besides quinine, is better than the red oxide of mercury, rubbed in daily over the splenic region, and preferably in the sunshine.
After relief is obtained for the malady per se, our attention is directed to its sequelae, and especially to the Spanaemia condition of our patients. Tonics are here in order, with good hygiene & nutritious food. For the relief of the gastro-intestinal disorders we employ with great advantage the pyro-phosphate of soda & quinine.

A

Thesis

on

"A First Labor Case;"

Submitted to the

Medical Faculty

of the

University of Maryland,

for the Degree of

Doctor of Medicine;

by

Charles H. Livingwell.

Baltimore.

1881.

A. First Labor Case.

It would seem to us if we were allowed to judge of the matter, that in attempting to write anything either new or original about any branch of medicine, to-day would be saying poorly what has been well said by others. And again to study any one subject from the books in order to write a thesis upon it, is very like

writing a paraphrase, so after some perplexity and much thought we concluded that something even if short and comparatively poorly written was preferable if an original experience of the writer than an elaborate article gleaned from ever so careful a study of the experience of others; hence our somewhat strange sounding title.

Hoping it may meet the approval of those

to whom it is to be submitted for judgement and that be lenient, I will endeavor to give an account of my perplexities and mistakes during my attendance upon my first labor case.

they may

Sunday Dec 5th on coming from my boarding house I met and was accosted by a woman in the hall who said there was a woman down the street in labor and wanting to see

a doctor. Telling her to wait I went to my room for a pair of strong scissors and a bottle of Ergot, coming down the woman guided me, in company with my friend. To a most miserable habitation, (the like of which I never dreamed until I came to the city) and without delay showed us up the steps where we found the woman upon her knees on the floor groaning some but upper-

aring not to suffer very great pain.

As soon as we could get her on the bed I made a digital examination in order to find.

1st The presentation

2nd " position

3rd How far the os was dilated.

And then by auscultation I attempted to ascertain if the child lived, next came a few questions with regard to the condition of her

bowels and bladder.

The presentation I made out to be head and the position the most common, left occipito illiac, the os appeared to be fully dilated and the head seemed seemed to present at the superior strait but not engaged.

Upon most careful auscultation I could hear no fœtal heart sounds from which I concluded the child was dead and subsequent-

by verified my diagnosis. Her kidneys had been active and she had had no difficulty in passing her urine, her bowels had acted freely if anything rather loose.

And now having obtained the information I deemed most important; by a few inquiries directed to the attendant, a woman living in the house, I elicited this history, Her time was not quite up, she had

done two days hard
washing during the
fore part of the previous week and had
been more or less un-
well ever since, and
this morning at four
o'clock had real labor
pains, hence when I
arrived she had already
been in labor
five hours.

I now by pressing
up to one side of the
presenting part succeeded
in evacuating the
waters.

Thinking that
now the case would
proceed rapidly - I wai-
ted a few minutes pa-
tiently but the woman was
perfectly quiescent - I asked
if she felt no pains?
She said she was too
weak to help any so
I gave her some Jod-
dy also some Ergot-
(℥ss) and soon had
the pleasure of seeing
the pains increase
and for a time it-
seemed the child mi-
ght be expelled, but-

again I was disappointed for soon her efforts ceased altogether, I then, at the suggestion of my friend, who by inspection seemed to have made himself quite sure my diagnosis of position was wrong, made another examination and found,— I did not know what but instead of as I thought before a hard round resisting tumor, I found round

a comparatively soft and fibrous feeling tumor upon which, in spite of making pressure in every conceivable direction, could be found no fontanelles no fissure corresponding to fissure between the mates! could it be possible I had made such a mistake? was this a lateral plain? or were the membranes still unruptured? These questions chased

each other rapidly through my brain.

And again, this as seemed growing smaller and smaller and seemed stretched to its utmost.

After a moment or two of thought it occured to me that this might be the caput succidaneum and upon consideration this seemed the only likely explanation and also quite plausible.

But how about the contracted os? could I have given the drug too soon? I thought not for the books all say it is time to give it when the os is fully dilated and I know this was so in this case. Well this could not be the explanation but there must be some cause for here was an effect and one can not exist without the other. So this was what

I finally decided must be the explanation, the pains being weak and inefficient and the abdominal muscles lax the head remained above the straits and then after the administering of the drug, its action being limited to the uterus, that began to contract and having no assistance from the abdominal muscles there was no impetus given to the child; so,

nothing coming between the lips of the os, it was at liberty to come together. Meantime the woman was undelivered and suffering, what was to be done? I concluded to do nothing until the effects of the drug was worn off.

And now came another tedious wait during which I only administered small doses of Toddy, but-

After some time she again had pains which grew stronger and stronger until until the head became engaged and then ceased again to cease, whereupon I again gave Ergot and had the satisfaction of seeing this time the good effects of its administration, for the pains rapidly increased both in strength and the length of

time they lasted until finally by a violent effort on the mothers part the child was rapidly expelled, so rapidly that - I was unable to recognize the various stages, or rather motions.

But here was my diagnosis verified both as to position and death of the child.

As soon as I found there was no under hemorrhage I made

Every effort to provoke respiration in the child but all in vain, he was dead.

And now placing my hand upon her uterus I followed the after birth pressing the uterus gently between my thumb and fingers and soon had the further satisfaction of finding it firmly contracted upon itself.

I now ordered the woman washed and a wet cloth placed

over the parts, as soon as this was accomplished I went again into the room found the uterus still contracted and no hemorrhage occurring and deemed it safe to leave her, so ordering her something to eat I went home.

The next morning when I called she was feeling quite comfortable except for after pains which were some what painful and learning at the same time she had

two or three operations since her delivery I gave an opiate and left her.

On going again the next morning I found her temperature about 100 F and pulse somewhat accelerated but only ordered quiet and cold clothes and light diet; her mamma upon examination proved to be in good condition.

Next day pulse and temperature both normal

Calling again next day found her Tempera-

102 4/5 pulse quick (116) full
This state things was rather appalling but only gave her Quinia and morphia and ordered cold cloths changed often.
Next day found things pretty much the same except she complained of offensive <u>whites</u>, for which I ordered vaginal douches, but as she was unable to afford a syringe I fear it was not very well carried out however washing frequently in warm

water and keeping cool cloths applied together with the administration of morphia and Quinia seemed to answer very well, for her her temperature and pulse were both normal in a day or two after this.

Her subsequent treatment was very simple gave her houses Tonic and ordered good diet.

And now for my mistakes.

First - I should have waited until the

head was below the superior strait before giving the ergot.

And secondly having once made my diagnosis of position I should not have changed for so slight contrary proof.

What I learned was considerable of self reliance.

And now in closing I hope this may be found acceptable and that I may not be found wanting myself.

[illegible] fever use an act of its [illegible] other disorders characterized by [illegible] of stupor. This disease fever [illegible] suggesting that of Abdom[illegible] to that of Enteric fever & still [illegible] Remittent fever, Typhous fever, Typho[illegible] is the common continued fever [illegible]

Pathological Characters:— There is scarcely an organ of the body that may not be the seat of pathological lesions but there are certain pathological conditions that are considered characteristic of the fever, & these are to be met in the Brain or Lymphatic tissues, in the blood, stomach, bowels, & the mucous membrane of the small intestine & in the [illegible] glands. [illegible]

[illegible] Circulation. The heart, brain, is [illegible] from below upwards, as a result of the [illegible] in the capillaries at end of 2d or during 3d week [illegible] centrifugal [illegible] process in the [illegible] vacuolation provided by the stagnating [illegible] & giving an [illegible] appearance. [illegible] and hemolysis to Typhoid fever & [illegible] to a greater or less extent [illegible]

[illegible]

[illegible] the fecces are passed in bed). Other cases again [illegible] the prominent [illegible] of carphologia, picking at & [illegible] bed clothes, twitching of muscles in face [illegible] delirium. As we turn to the digestive system, we observe [illegible] perversions — but there is generally [illegible] [illegible] of blood [illegible] is [illegible] form. In [illegible] cases there is a tendency to diarrhoea or some loose [illegible] of bowels, wh. constitutes one of the great disagreeable [illegible] of the affection — the stools are generally of a yellow, olive color. Sometimes we [illegible] have hemorrhage from the bowels, resulting from intestinal ulceration — warning of this hemorrhage being given by a sudden decline of the body temperature. Other abdominal symptoms are lymphangitis [illegible] — presence of intestinal [illegible] of intestine may occur causing peritonitis, wh. [illegible] [illegible] the mesenteric glands [illegible] matter contained in a mesenteric gland [illegible] complication almost invariably proves [illegible] skin in this affection is usually covered [illegible] rose-colored eruption, wh. is papular — a raised [illegible] the surface & not simply macular, [illegible] urinary vesicles, & sudamina may be [illegible] [illegible] chest & abdomen. As a rule, the skin is [illegible] We observe the respiratory system, slight [illegible]

[illegible] is to be determined by both [illegible]
[illegible] always adding to the gravity of the disease. In the forming stages Epistaxis is a diagnostic symptom, but does not exert any influence on the prognosis. Symptoms referable to [illegible] may be noted in body heat. The gravity of the disease is in direct proportion to increase of pulse, danger being considerable, if it be from 120 [illegible]; and when they are very suddenly considerably increased, we may expect Peritonitis or [illegible]. The thermometer shows a variation in [illegible] throughout the disease, highest being in the evening & lowest in morning. In the first two stages the temp. rises to at least 103° [illegible] there is much increase above this, it indicates a gravely prognostic; while a fall of the body heat to be looked to as the normal standard is [illegible]. There is always a marked [illegible] between the morning & evening temperatures, [illegible] not in them be great.

[illegible] elevation in the morning to 100° or 101° [illegible] an effusion of death; and a sudden considerable rise during the course of the disease, [illegible] the last case in [illegible] has been added to the pre-existing affection.

[illegible] consecutive decline of temp. [illegible] following improvement, is generally unfavorable, [illegible] the sweating stage. Symptoms referable to Kidneys are seldom unusual & [illegible] albuminuria, when it is [illegible] the presence of [illegible] albumen is not [illegible]

[illegible]

[illegible] Hospital [illegible]

[illegible] or, it may be passed in bed either from incontinence or from incontinence.

Consultation: On the front bill [illegible] in all parts of the Earth. In Malarious [illegible], it is generally complicated with remit[illegible] [illegible] increased. The milieu seems to be the [illegible] and fatal development, this is [illegible] [illegible] the year. Age is a predis[illegible] [illegible] between 5 & 30 [illegible] & [illegible] but may be owing to the appearance of legend [illegible] after the age of 45. It is not uncommon in childhood but very rare in infancy. As regards contagiousness of the affection, there is great diversity of opinion. Under certain circumstances, it may be communicated, but it generally originates spontaneously [illegible] coming in contact with private patients, may [illegible] this rule arise, the special virus is derived from the secreta & emanations from walls [illegible] the local poison. The disease rarely [illegible] than once [illegible]

... discussed. Diagnosis:— This disease may be discriminated from others by the slowness & insidiousness of the attack, by the looseness generally of the bowels, ... tympanitis, the tenderness & gurgling in right iliac region, ... the stupor & delirium, the characteristic appearance of the tongue, the youth of patient and season. These points observed in connexion with symptoms distinctive of other affections, ... renders the diagnosis easy but this is not ... case; in wh. event we cannot always ... diagnosis at first, but must await ... developments. It may be confounded with ... fever, meningitis, pneumonitis, acute ... & Enteritis. From the first it may be distinguished by the peculiar abdominal symptoms

... of the ... in ... & ... sufficient to show them non-identical; & ...

... is ... above ... whilst ...

... that no well marked remissions ... former generally diarrhoea — in latter, constipation, ... late in disease. In one, there is ... distention of the abdomen ... in other the belly is flat. Sudamina occur ...

... a gradual recovery & second ... — whilst in typhoid ... relapses & second attacks do occur.

Meningitis it may be distinguished by ... prominence of symptoms of headache, intolerance of light

[illegible]

[illegible] to the occurrence of Typhoid symptoms. [illegible] discriminated by the more frequent, [illegible] & absence of abdominal symptoms &c. We must be careful also not to allow the diarrhoea when prominent to lead us to an erroneous [illegible] in considering it to be the primary [illegible] in such instances, have recourse to the [illegible] the daily increase of body [illegible] by other symptoms as they arise.

Prognosis:— Varies according to cir[illegible] symptoms, are constant & active delirium, deep stertorous respiration, inverted subsultus tendons, profuse diarrhoea, or hemorrhage [illegible] extreme prostration, frequency of [illegible] the [illegible] be fatal [illegible] favorable prognosis may be entertained [illegible] symptoms are [illegible] to the [illegible].

Treatment: Typhoid fever has a certain course to run [illegible] at [illegible] the [illegible] diarrhoea [illegible]

[illegible] mucous [illegible] irritating in the [illegible] of [illegible]
[illegible] feet. The [illegible] indication [illegible]
[illegible] & [illegible] down [illegible]

[illegible] Foremost among the [illegible]
[illegible] treatment, is the [illegible] of [illegible]
[illegible] of the [illegible]
[illegible] or sponging the surf. with cool or tepid
water, to which may be added alcohol, citric acid
or vinegar, & this must be done whenever thermometer
[illegible] a temp. of 103° or over. Synergetic to the use
[illegible] to [illegible]
[illegible] body heat. Among these febrifuges, may be
[illegible] mentioned Quinia, Digitalis & Veratrum
[illegible] of Sulph. Quinia should be from
15 - 25 grs. for an adult. Veratrum Viride should
[illegible] used cautiously. The mineral acids in dilute
form have been tried & found extremely beneficial;
the rationale of their efficacy being ascribed to
[illegible] neutralizing effect on the [illegible] alkalinity
[illegible]. Statistics can be brought forward, to prove
that the internal use of mineral acids is not
[illegible] to a [illegible] death rate. [illegible]
[illegible]
[illegible] & continued for 2 or 3 days, every [illegible]
[illegible]
[illegible] tongue peeling off in flakes, leaving a glassy
[illegible], is a special indication for use of
[illegible] the [illegible] of the disease,
cephalalgia should be treated by shaving the head,
& making cold applications thereto. This proves
[illegible] in relieving the pain & delirium.
[illegible], coma-vigil, ataxic symptoms must be
[illegible] by camph. [illegible] Ether, opium & other [illegible]
[illegible]. Debility & prostration should be met by use
[illegible] beef tea [illegible]
[illegible]. Diarrhoea is restrained by opiates &

astringents for severe cases. In case of co-
lon, evacuant may be delayed, but if
a large motion injurious should there be no
of discomfort & abdomen be not distended.
retention of gas in large intestine (typhlitis) one
dose may be used to large evacuation with
salines or enema. Certainly, when
calls for the free use of stimuli; and intest
hemorrhage demands the same treatment
astringents, cold applications to the abdomen
& absolute rest & complete repose & absolute quiet.
Examination of the Urine should be made from
time to time & if it contains a
very [illegible] amount of albumen or of specific
gravity, then we must employ hot-air baths,
to produce free diaphoresis. In the treatment
the hygienic & sanitary measures are infinitely
more than any other. The importance
of pure air, perfect clean
by linen, immediate
removal of the excreta, frequent changes in
from bed to side & vice versa.
of the air cushion to avoid bed sores.
regulation of temp. under 60° fahr. — Under
treatment, are embraced tonics,
stimulants & good food. [illegible]
is the best, [illegible] every few hrs. Stimulants are rarely
in early part of Typhoid. Their administration
is directed principally to the circulation.
presence of pulse-rate & heart sounds, demand the
constant use of stimulants, quantity being regulated
according to the degree of prostration & susceptibility
of patient to the tonic influence. Generally
begin with half ounce & be guided by effect. The last
but not least of nutritive measures is good food in

[illegible] such as gruel, farina made with [illegible] chicken soup & especially milk, which [illegible] necessary [illegible] of alimentary [illegible]. Typhoid fever is a self-limited [illegible] disease, & by the subsidiary treatment, the patient can be kept by patient care for six weeks, during which time complications may take place, thus [illegible] complication supervene. Hence the [illegible] importance of rigid supervisance on the part of the physician, to see that the patient [illegible] & stimulated in proper quantities & [illegible]. In the majority of cases the indications [illegible] the patient from all injurious influences [illegible] & maintain [illegible] & stimulant. — Thus [illegible] present, we should see that the sick room is [illegible] & free from it well ventilated, as this [illegible] is quite indispensable to the favorable progress [illegible]

[illegible] the patient to a draft, in the case [illegible] up to liability of taking cold, may [illegible]

[illegible] the purpose of preventing [illegible] excoriations. If he cannot [illegible] moved, it must be done for [illegible] a rag wet with cold water. [illegible]

[illegible] with XX & XXX [illegible]

[illegible]

Six Cases reported by
Chas. G. Duncan
Submitted to the
Faculty of Physic
of the University of Maryland
for the degree of M.D.

Feby 14th 1881

At 2 o'clock P.M. June 28th 1850
My bro. and preceptor James A.
Duncan of Toledo Ohio was called
to see Georgie B. of German descent
aged two and one half years.
Croup was soon diagnosed and by
the copious use of ice internally and
heat externally followed with anodyne
remedies the patient in about thirty
minutes went to sleep and was
comparatively easy for a number
of hours. At about 7 PM same
day the father brought the child to the
office, he appeared to be in usual
health, on the following evening
June 29th the Dr was again called
to see the child the diagnosis
this time was intermittant fever
but the altered appearance of the
breathing led him to suspect
some lung complication.

After a very careful examination Nothing unusual could be detected no more than what is common in this Malarial Climate during the fever stage, ordinarily, physicians do not in this city make a second call for intermittant fever, the Dr. called to see Georgia early the following morning June 30th when to his surprise the youngster had Capillary Bronchitis. He learned that the Child had been allowed to sleep near a window that had remained open all Nights a thing uncommon, entirely so, for the boy during health. On the morning of June 30th he had the thorax anterior and posterior painted with Spiritus Camphorae and Oleum Olivae equal parts.

Dipping a flannel [illegible] into hot water, [illegible] applying the above mixture to it - and put the short coat on the child covering this with a flannel shirt and this still being enveloped with a large yellow oil, the Dr. [illegible] ordered the following

℞

Liquor Sulphas	ʒ ij
Extract Glycyrrhiza Fluidum	ʒ j
Syr. prunus virginiana.	ʒ j
Aqua Cinnamomi q.s. ad	℥ jss.

M Sig. One teaspoonful every three hours.

This was taken until xx gone.

Jan 21st in the morning my Preceptor kindly asked me to accompany him, upon diligently [illegible] [illegible] the

constitution and [illegible]
food always [illegible] exceptionally
good, and never [illegible] sick or
single fever previous to the present
attack. The father and mother are
[illegible], and always have been healthy.
No rheumatism, gout, syphilis,
[illegible], or cancer. The habits and
mode of life of Patient were [illegible]
-regular such as generally prevail
among the middle classes,
except during very inclement
weather, out of doors the most of
the time, so that the hygienic
influences to which exposed were
that of which is best adapted to
health and strength. The face
was [illegible] and [illegible] with
an [illegible] look in his countenance,
[illegible] short and [illegible] upon
[illegible] by the [illegible], his speech [illegible]

Stoop and jerking, his face
had a black and blue appearance,
coughing difficult and incessant
and the expectoration profuse. Up-
upon collecting some and putting
into water it was found to float.
having filaments connected
which sank below the surface.
The sub crepitant rale was com-
mingled with coarse and fine
bubbling sounds while the mucus
bronchial rales were heard on
both sides and especially on
the posterior aspect of the chest.
The anterior, superior and
middle portions of the chest were
largely dilated presenting the
characteristic deformity of long
continued emphysema, the
respirations were not labored but
found to be 60 per minute the

pulse was 160 with the temperature 104. My preceptor then gave the following

℞

Aconitum, fluidi	ʒj
Syr Doveri	ʒiiij
" Scillae comp.	ʒj
" Tolu q.s. ad	℥ij

M Sig. One teaspoonful every three hours.

The ℞ No. 1. was ordered to be applied night- and morning cautioning the nurse to keep the child from any thought and to expose only a part of the patient at a time. With this was prescribed, July 2nd at 10 a.m. the spine relaxed, the pulse to face presents a bluish appearance having passed a restless night-, his pulse now 172 respiration 62 temperature 105

In the evening we saw him again. He had drank nearly two pints of milk and had had one stool during the day. July 3rd at 10 A.M. we saw him his pulse 134 respiration 36 temperature 102½. At 7 P.M. we again saw him, his countenance was pale, skin moist, and had during the day two semi-liquid stools. Pulse now 130 respiration 36 temperature 103.

July 4th in the morning we saw the boy again, had been asleep most of the time. His countenance wears the appearance of being. Pulse 120 respiration 34 temperature 101. We saw him again at 4-30 P.M. He had taken during the day three pints of milk which the Dr had ordered.

July 5th 10 A.M. pulse 140 respiration 48 temperature 99 the fields dilated. We ordered 6 to be [illegible].

July 6th I saw the patient with Dr. He was had a healthy look. Spin normal. Respiration not marked. Slept well, slept in the morning. Good color, good appetite, lungs clearing up at the base, happy cheerful disposition. The patient was seen daily for one week but nothing except a gradual recovery occured. His expectoration only si[illegible]. The child when recovered was placed on flat and not able to walk alone. He gained in weight and was last seen Aug 1st. He had walked from [illegible] to the office with his father and was a perfect picture of health.

A German woman Mrs G. age 55 years. Has constitution and general health has always been good, not having been affected with any constitutional disease such as gout, syphilis, rheumatism or cancer, and whose mode of life being out-door exercise at most of the time. She frequently accompanied her husband, who was a gardener, to the market-place. After returning home Aug 2nd 1880 in the afternoon while attempting to unhitch the team she received an injury. The traces of both horses had been loosened and the crotch-strap of one unbuckled when the other horse became frightened and jumping to one

side struck the woman with the end of the tongue of a wagon on the inner side of the right leg. My preceptor was sent for and in less than twenty minutes after the accident we were at her home, we found her lying on a sofa suffering much pain. It was soon ascertained that the fibula was not broken, but by running the finger along the subcutaneous edge of the tibia found that a point two inches above the inner malleolus a point somewhat irregular, puffy. and tender, then by accurate examination some crepitus and mobility was detected, and diagnosed as a simple fracture. We applied plaster

-ward splints moistened in starch then placing on these a narrow strip of hoop iron running from the inner sole of the foot to the knee on either side, then an other strip of pasteboard on the iron strip. we now bandaged the leg first with a starch bandage covering the splints then covering this with a dry roller. She was ordered to keep the leg perfectly quiet, some morphine powders were left her and we returned to the office. early the next morning we called and found that during the night she had suffered but little pain, the Dr ordered the bed in which she was soon to be

placed, made up hard flat and firm. The foot was then very carefully layed in, then by means of an upright piece of wood, attached to the foot of the bed, having a horizontal bar extended, to which was fastened a rope and pully to raise and lower the swing splint which was now put on. The patient was carefully guarded and for a time was called daily. She suffered but little pain, the apparatus was carefully adjusted from time to time, the splints and bandages all taken off every fifth day, the limb washed with Castile Soap to allay the itching, Lemonade and tincture Chloride iron in small doses given at times.

At the end of the fifth week she was walking with crutches, having had bandaged to her leg an iron splint with hinges at the knee.
At the expiration of two months she could walk a short distance without the aid of anything, her recovery almost complete with scarcely any perceptible shortening.

August 22nd 1880 between 10 and 11 o'clock in the evening, Daniel W- in company with an other young man were driving very fast down Broadway and in attempting to turn a corner in front of my Pro: Office the buggy was turned over and both men were thrown violently to the ground, only one of them received any perceptible injury, he in falling struck his head on the R.R. car track inflicting a severe bruise on the left frontal near the coronary suture, he swoon within one half hour after he fell, and, as he lay upon the pavement he appeared moribund., the surface was cold and pale, he was insensible, and when called

even in a loud voice would not respond. upon listening closely the heart could be heard to beat but the pulse scarcely perceptible. When the pupils were examined they were found to be neither dilated nor contracted, but would not respond to light. When a lamp was brought down close to the eye.

His friends was walked off to the lock up leaving no one to tell what his previous condition was, Soon a crowd gathered around and among them was one who knew him and where he resided.

As soon as possible after the accident a board was found, the young man

placed upon it and taken home. There we soon learned that he had been drinking in fact was drunk. It was not until he made an attempt to vomit that a "flavor" could be detected about his breath, after he was put to bed he turned over and soundly to sleep and did not awaken until six A.M. next day. In regard to a positive diagnosis we could arrive at no conclusion except to reason by way of exclusion. That he was drunk there was no doubt but that drunkenness could produce such alarming symptoms as was shown

in this case there certainly might be occasion to look further, it appears very reasonable indeed to infer that he had concussion of the brain however slight.

He was ordered to take a light breakfast of warm tea and toast, Magnesia Sulphas in ʒss. dose every hour was given him until a passage from the bowels and the same dose each evening for four nights. On the second day after the accident he went to work and his affliction gave way to speedy recovery.

In the afternoon of July 26 1880 I saw a German Child aged two years and two months.

The history of the case is about as follows. Just two weeks previous the Child had a severe fever without any pronounced symptoms observed by its parents.

Dr Callamore of this city was called and diagnosed the case as one of Intermittent fever of the quotidian form, fever returning every day for one week. The Dr called, the last time, in the morning of the 7th day and as the child had had no fever the day previous concluded that it would not again return. On the 10th 12th and 14th days however the fever returned and Medicine was not given until My Bro. was called. Quinine in full

doses was administered for the following four days. but the fever returned on the 16th and 18th days just as severe, when a full dose of Calomel was given. Cinchonidia was now given in tonic doses with a few drops of brandy for four days more. On the 20th and 22nd days the fever was the same as before. Cinchonia was now dispensed for four days then Quinine for two days, but fever on each alternate day as before. On the 28th day Malt of Malt with Cod Liver Oil was prescribed, on the 30th day some fever but was nearly four hours later in the day than had been usually coming on. This was the last. The child rapidly recovered. The Malt and Oil was continued until one pint was taken. The nutrition

was apparently not impair-
-ed, for the child had a good
appetite and played even sec-
-ond day when not having the
fever, and on each day of sick-
-ness it relished the morning
meal but not the other two.
It was neither anaemic nor weak;
except when it had the fever.
The mother had ceased nursing
the child eight months previous.
It had never been sick a day be-
-fore the present attack.
During its sickness milk was given
freely and it partook of the same
food as the rest of the children
except at noon and evening on
fever days. examining the fece
the food was found to be ver
degested, It never vomited nor
was there any trouble about the

action of the Bowels.
When I asked my Bro why he gave Malt and Cod Liver Oil, Said, "one thing is Certain it needs no more Peruvian bark for preparations and I must do Something you Know". The Child fully recovered but whether the Liniment a helping hand or "do Something" Should have the full Credit I have never been able to learn.

On the Morning of July 29th 1880 My bro. was called to See Lillie K- who was suffering from a Severe Scald. I went with him and upon our arrival, which was about one half hour after the accident. She was found to have Scalded her left leg by tipping over a Canister of hot tea at the breakfast table, from the knee following the femoral muscles down to the os calcis Surrounding the tendo Achilles, the lower third of the leg. Her parents immediately applied Sodae Bicarb. in large quantities without Maintaining direct to the Scald and wrapped the leg in flannel immediately. After the injury the patient was

seized with fits of shivering but not severe. When we reached the patient although but a short time had elapsed since the accident, she was suffering but little pain. Tr. Opium gtt. viij in a little water and brandy was given her and ordered a repetition of the same dose in one hour. More soda was now applied spreading it on even through out the entire extent, covering with flannel then applying a spray of tepid warm water until all quite moist; The first four degrees as marked out by Erichsen were found to be associated together, scorching of the skin with no permanent injury, having slight redness with efflorescence of the cuticle

Near the margins of the scald, there was not only general redness but to this bul' vesicles formed at once which were quite large, the Cutis was found to be destroyed and the characteristic ashy eschars were formed involving the whole thickness of the skin, which were soft and pulpy. Surrounding the tendo Achilles and extending to within one inch of the inner Malleolus not only the whole thickness of the skin but the Subcutaneous areolar tissue was destroyed. Dry eschars with inflamation around them and upon them suppuration deep and luxuriently granulating ulcerated surfaces formed,

On the following morning we visited the Patient again having ordered a fresh supply of the Soda to be applied the evening previous, taking great care not to remove the crust that had already formed by admixture of the Serum and Soda. She had but little pain during the night. The alkali was put on and dampened again as before. We called at 8 P.M. The dressing was now taken off and the leg carefully washed with warm water. The vesicles that had formed were now opened and the following lotion applied ℞

Extract papaveris	ʒ ij
Aqua fervens	℥ j v

℞

Ferri Oxyd.	℥ss
Syr. Simplex	℥j
Aqua ℘s ad	℥iij

Sig. One teaspoonful three times a day.

We visited the patient once each day for two weeks. During this time the anodyne lotion was supersceded with Carboline freely applied. The ashy colored eschar removed. The Carbolic acid solution ss – ij applied each day. On the 10th day the granulating surface was touched with crystals of $AgONO_5$. On the lower third of the leg forming healthy granulations. At the end of the 20th day the girl was walking and speedily recovered.

Mr E. Age 49 - Married -
At 7 PM September 3rd 880
took Opii tinctura ʒvj. He was
kept awake and walking by his
wife and daughter until after
Midnight when his legs gave out.
My Bro. at this hour was called;
he learned the nature of the case
before leaving the office and took
with him a hypodermic Syringe
having prepared a Solution of
Sulphate of Atropia gr ii - ʒj.
The respirations were counted
upon arriving at the house
and were Eighteen in four minutes
or 4½ per Minute. He
could be aroused but would
immediately fall asleep, an
injection of gtt xxx of the Solution
(Atropia 1/8 gr.) was immediately
given and in five Minutes

breathing was increased, in ten minutes by the aid of two men he was made to walk in the open air, this was kept up for 1½ hours when he was allowed to rest for a few minutes, after which the walk was continued until morning. when he was fully recovered, I did not see the case but I state the facts to show what an enormous dose of Atropia can be used with good effect.

Four days after, Mr. N- called at the office and said, "For Gods sake dr come quick my wife has taken Laudanum", on invitation I accompanied my Bro. The husband had just returned home, 6 P.M., and found her dead, as he supposed,

upon inquiry of a bright child of Six yrs. we learned his Mother had taken Opii tinctura ℥ij
we were shown the empty bottle, but when the woman had taken the drug we were unable to ascertain. There was complete apnoea respiration could not be detected either by sight or hearing. the pupils were contracted to pin points her muscular system was relaxed the heart was feeble and slow, the pulse had sunk low, almost imperceptible.
Modes of treatment were taken into consideration, it was evident she was past the period when it would be of any avail to attempt removal from stomach, Mechanical means alone would only give the drug more time to complete its

deadly work, gtt. xxx of Solution Atropia Sulph. (gr. ⅛) was given hypodermically, immediately she was taken into back yard and laid upon the ground, application of Cold to Spine, reflexation, Artificial respiration was well tried but no improvement in patient observed. "Drop out gtt XL of that Solution and bring it here", the Dr said, I did so, he injected it this time (Atropia gr 6), this was exactly eight minutes after the first injection of gr. ⅛. every effort to promote respiration was now made but apparently of no avail. While holding her in a sitting position, at 7 o'clock and five minutes, one hour after the first injection of Atropia, and compressing her thorax she breathed for

the first time. This was noticed to be repeated in about two minutes. In another ten minutes her respirations were about 7 per minute. In one hour after, the breathing was nearly normal. At 10 P.M., or 4 hours after she was first seen, she was stupid but could talk well and walk with help. She was kept walking until midnight when she retired and slept well until morning. On the following day she was making calls and apparently none the worse for her previous night's experience. The rapid recovery of the case was quite remarkable. The subcutaneous injection of Atropia Sulph. gr. $\frac{1}{24}$ within eight minutes is no less noticeable. This is the largest

quantity of Atropia I have ever seen given yet it seemed to be indicated and the effects were almost magical.

My preceptor informs me that one year ago an old lady 74 yrs. took, by Mistake, Morph. Sulph. Gr. III with Fld. Ext. Belladonna ℳ XX (Squibbs) at one dose without any unpleasant effects, in fact quite the contrary, She had been troubled much Sciatica for two weeks which resisted all previous treatment, but after this one dose it ceased, and much to his surprise did not return.

Paper

[illegible] the best authors
[illegible] not be easily find-
[illegible] common Ex-
[illegible] the low vacillating
[illegible] which symptoms
[illegible] accompany many other
febrile affections. The
nomenclature of this disease
seems hard to settle,

[illegible] proposed
[illegible] seems to
[illegible] to express more fully
[illegible] of the malady
[illegible] Enteric fever, but seems
[illegible] to objectionable as it
[illegible] that the fever
[illegible] of the essential ty-
phoid or typhoid fever.
Eruptive, as a slight rose-
colored eruption generally
occurs found 8th to 12th day
in succession [illegible]
[illegible] the 8th day
[illegible]

The disease is contagious
not. No one seems to doubt

their water or milk.
The disease has certain ne-
cessary specific lesions, these
are ulceration and

[illegible]

[illegible] of spleen, which are as essential to the disease as the [illegible] to small pox. The accidental lesions are degeneration of heart, liver [illegible]

[illegible]

[illegible] pain in back. In the majority of [illegible]

always in proportion
to the intensity of the disease.
and may sometimes be
[illegible]
[illegible] permanent this symp-
[illegible] it should never
be [illegible] in [illegible]
[illegible] of the brain or
meninges there has not been
found after death any ex-
[illegible]ence of inflammation, not-
withstanding the delirium was invariable
marked. We must therefore

[illegible] the brain symptoms"

[illegible] to a person

[illegible] the above symptoms

[illegible] the state called cerebro-

[illegible] which the patient

[illegible] to rage but is in reality

[illegible] other nervous phe-

[illegible] are quite common,

[illegible] twitchings of muscles

of face and limbs, picking at

clothes etc.

[illegible] are loss of appetite,

[illegible]

[illegible] of yellow or [illegible]
[illegible] and [illegible] of [illegible] [illegible]
[illegible] or [illegible] [illegible]
[illegible] of the [illegible] [illegible]
[illegible] [illegible] from bowels [illegible]
[illegible] which is [illegible] [illegible]
[illegible] of temperature.

[illegible] or [illegible] on [illegible]

[illegible] valve with [illegible]
[illegible] [illegible] fossa accompa-
[illegible] [illegible]

K

already been

[illegible] the [illegible]

[illegible]

[illegible] appears on

the 11th & 12th day, in pink

[illegible]

slightly oval in form.

[illegible] pressed, their color dis-

appears, but returns on [illegible]

pressure is removed.

They are very numerous, not

[illegible]

[illegible] to

[illegible] lasting about

three days and [illegible]

[illegible]

liability to bed sores precautions
should be taken to prevent them

[illegible]

[illegible] the morning bran in
the morning food gradually

[illegible]

[illegible] accumulation [illegible]
[illegible]

temperature be usually high in the morning, say 106° to 108°, it is a sign of speedy dissolution. The bladder should be carefully watched during the dis-

If when necessary-
[illegible] of the disease be
[illegible] and the average 21 da[illegible]
[illegible] In some cases there have been
[illegible] in which it continued
[illegible] days or more. The
[illegible]
[illegible] the recovery the patient
[illegible] rally from fatal and more

[illegible]

dyspnoea.

The most prominent [illegible]

[illegible] pain in back and loins,

[illegible] constipation of bowels, abdom-

[illegible]

the gradual development of the fever.

Prognosis: We should be extremely guarded about giving a prognosis in no case is too simple to be thought [illegible] A [illegible] lightly [illegible] but to some accident or complication as peritonitis hemorrhage from bowels, [illegible] tent [illegible]

[illegible] lung or kidney [illegible]

[illegible]

into prophylactic and curative [illegible] by [illegible]

sources of its production the [illegible] of [illegible] use the [illegible]

many provisions some of which [illegible]

[illegible]

There must be frightful [illegible] of the disease. The secretion of the patient stones be dis-

such

[illegible]

[illegible] the [illegible]
previously been [illegible]
vesicles

[illegible]

indications [illegible]
dole the poison, eliminate effete
matter from the blood by the
bowels, kidneys liver and
[illegible]
to [illegible]
local excitement, to induce
[illegible]
[illegible]

frequent diarrhoea to relieve
complications and distressing

depositions,

[illegible] strength and prevent degeneration and failure of organs.

[illegible]

cold applications

2nd Preventing its production by the administration of medicinal agents which operate on nerve centres, or the nerves vessels and tissues; or by agents [illegible]

temperature by bringing the

for the redbirds!

In

the Cold bath on the bed 'fowers.

would degenerate [illegible]

[illegible]

in large clouds say from

[illegible]

As nature tendeth not in the

[illegible]

think that at onset a mass

[illegible] would be in order,

[illegible]

Effect on the Pulse [illegible]

[illegible]

To relieve the abdominal pain

[illegible]

[illegible]

[illegible]

Hemorrhage should be checked

[illegible]

internally and by external lead

ice applied [illegible]

[illegible]

Seat of Hemorrhage

[illegible]

[illegible] when the tongue

is red and dry and the abdomen-

ical symptoms marked
oil of turpentine should be
given to modify and heal the
intestinal ulcerations as
[illegible] as soothe and support
the [illegible] system.
Statistics seem to prove that
acids, and especially Hydrochlo-
ric acid is a constituent of the
gastric juice [illegible] of persons
[illegible]
Nothing is of [illegible] importance
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] should be taken [illegible]

When under the [illegible] of a
cor hol, there is diminished

— THESIS —

ON

VIVISECTION.

— BY —

ALFRED C. PALMER

VA

Vivisection

The question of Vivisection as regards its benefits in impressing certain facts upon the minds of Students of medicine and whether the knowledge gained equals the pain caused; is again pushing its way to the front.

How far the practice of Vivisection dates back I am unable to say but for over two hundred and fifty years it has been lending its undoubted aid to Science.

In the year 1875 a Royal Commission was appointed in Great Britain to investigate

this subject with a view to subsequent legislation. The interests of Science were represented by the appointment of Professor Huxley as a member of that Commission. Its meetings continued for several months and the report constitutes a large volume containing the opinions of a number of the most eminent men of the profession in Europe in which they express themselves in direct opposition to its practice merely for the purpose of Class demonstrations to impress facts which

have long since been proven.— Amongst these are Sir Thomas Watson Physician to the Queen, Sir George Burroughs President of the Royal College of Physicians, Sir James Paget Surgeon Extraordinary to the Queen, Sir William Fergusson F.R.S. Sharpey, Rolleston, Darwin and others. During the past winter (1880) the Society for the Prevention of Cruelty to Animals made an unsuccessful attempt in the New York Legislature to secure the passage of a law

which would entirely abolish the practice as now in vo-
-gue in our Medical Schools or cause it to be secretly carried on in defiance of legal enactment. In sup-
port of this bill it was claimed that "Physiologists for the sake of demonstrating to Medical Students certain Physiological Phenomena connected with the functions of life are constantly and habitually in the practice of cutting up alive, torturing and tormenting divers of the unoffending

Brute Creation to illustrate their theories and lectures but without any practical or beneficial results either to themselves or to the Student. Which practice is demoralizing to both and engenders in the future Physician a want of humanity and sympathy for physical pain and suffering" -

The claims for the passage of this Bill but shows to a degree the opposition which is entertained by the populace to the practice of

Vivisection. It must be granted that a great deal of this opposition is the product of ignorance, and the reading of such a law is well calculated to increase it It creates the impression that the operations are carried on entirely without the aid of Anesthetics; were this the case their oppositions would be better grounded. It is true that there are a few operations which are termed Glycogenic would fail under the employment of

certain Anesthetics but these form a small proportion—

The wise Men from the East and our own countrymen who are advocating the enactment of such laws seem desirous of depriving the beginner in the study of Medicine one of his surest roads to knowledge.

We are taught that the hearts action consists of a Systole and diastole; but who gets the correct idea of this statement until the thorax of a living animal is opened before him

and an examination of the organ performing its natural functions be made? How can the actions of the Diaphragm in respiration be made clear except by removing the abdominal walls of a living brute and observe things as they really are? Where do we get our clear demonstrations of of blood pressure?

I take the point that Text Books and lectures are unable to give the exact ideas which Vivisection affords and which the Student should necessarily have. It is not

necessary to state that the great Science of Physiology is still in comparative darkness, shall it remain thus and leave untold hundreds of phenomena which would enable the Physician more fully to cope with disease for the sake of the lives of a few dumb brutes?
It cannot be denied that one disclosure by experiment but leads to another and probably a greater, and there can be no doubt that possibly some of Bernards and Magendie's most brilliant disclosures were made whilst investigating

and establishing in their own minds some previously stated fact which had been handed them in the writings of former researcher. We see evidences of this every day. But to revert to its practice before the Medical Classes of the country; it is stated that if these experiments are certified to by a Magendie a Bernard or a Brown-Sequard it should be evidence enough to substantiate them and to forever do away with their being performed again This is undoubtedly true

but these experiments are not brought before a class to prove that these great men have not made false statements, but, to lay before the eye of the observant student the exact actions of the several parts of the economy, the knowledge of which is impossible to be gained through any other channel.

It cannot be supposed, for one, that the wilful cutting and torturing of any of the innocent brute creation for mere curiosity's sake is

at all favored. nor is Magendie's old style of operating without depriving the animal of sensibility - but the fact that Vivisection is one of the greatest aids to the student in Medicine cannot be questioned. You had as well deprive a college of its Chemical experiments and all other appliances for rapidly imparting and simplifying what is put before its students -

It is again argued that reference to the writings of the present should be a suf-

ficient source of istablishing these matters. Sight seems to be lost of the point that the important items in Science are multiplying daily - fact with which it is absolutely important that the practition-er should be acquainted, also that the Medical Sessions of our Country are too brief to afford the Student time to investigate the elaborate writings pertaining to these sub-jects; therefore it seems noth-ing more than justice to allow the Student and Lecturer all advantages at-

tainable to fix these facts in the most lasting manner in the time which is allotted them and not leave the student pore for weeks over text books and then get partial ideas which can be gained otherwise by the stroke of the Lecturers knife.

The lives of the animals are not to be compared to the time saved to say nothing of the lasting and correct impressions which this practice affords.

The most speedy methods of otherwise getting rid of

these inoffending brutes such as our improved dog pounds we are smiled at and considered "blessings" but to call one of these animals furnish its "pneumogastric" to be cut before a class of Future Physicians to enable them, by observing its phenomena, to make more intelligent diagnoses, it is considered, as Dr. Elliotson termed one of Magendies operations, "A Barbarous Experiment". The beneficial effects of Vivisection to Therapeutics is also denied but its aid to Physiology is conceded

How this state of affairs can be I doubt exactly comprehend when Pathology is directly founded on Physiology and Therapeutics on Pathology.

This statement, I think, is fully met in the accounts we have of the experiments of Thaube Reynal and others on dogs and horses with Digitalis I grant the apparent effects might have been noted in other ways, but it was formerly thought that the decrease in frequency of the hearts action under the influence of this drug was

was directly due to its sed-
-ative effects upon this organ
but these experiments showed
it to be purely a "heart tonic"
from the fact that the systole
of the organ in animals
under the influence of it
was much firmer and
decided and therefore length
-ened the beat and in an-
imals poisoned with the
drug the heart always
ceased its action in sys-
-tole showing conclusively
its tonic influence. I
know of no other means
by which this knowledge

could have been gained ex-
cept by Vivisection
What becomes of the experiments of
Claude Bernhard, and Brown-
Sequard's great discovery of the
action of Strychnia in in-
creasing the nutrition of the
nervous centres? Has not this
been an aid to Therapeutics
in the treatment of certain
classes of nervous disorders
caused by anæmia of these
centres? Had he not given
this fact to Science many fatal
accidents might have con-
tinued to occur from the ap-
plication of this drug under

the opposite condition. It was formerly thought that Strychnia acted in an entirely different manner, Harley and others claimed its action to be upon the tissues and fluids of the body preventing them from absorbing oxygen and exhaling carbonic acid and it was not thought to have any direct action on the cord. This belief was prevalent as late as the year 1856. It may be questioned whether or not these experiments come under the head of Vivisection from the literal deffinition of the

term, but it seems nearly akin to it since the knowledge was certainly gained at the expense of considerable pain, which seems to be the point involved. I don't know that any better effects are gotten now than formerly from certain remedies but undoubtedly the Physician knows better their modes of action and advances on disease with greater confidence,
Before the action of the Pneumogastric was discovered how vague were the ideas of the channel through

which certain heart stimulants and sedatives produced their effects. The knowledge of the "Why" certain remedies have their various effects seems to be placed at naught. Space will not allow the enumerations of reasons why Vivisection should not be abandoned either for class demonstration or ~~for~~ the advancement of the science of Therapeutics. Were this the case medical men would remain entirely ignorant or with vague and incorrect ideas

of a number of the most important and suggestive phenomena which are made so patent by its practice.

I deem it inexcusable should fatal errors accrue from the neglect of a College placing before the eyes of the student these experiments and let him know things as they really are

Alfred C. Palmer

[illegible]

by

W. O. Bailey,

[illegible]

Winter 1880-81.

Pneumonitis.

Pneumonitis is an inflammation seated in the parenchyma, or substance of the lungs.

Pneumonia is the name by which this affection is generally known, but in conformity with the nomenclature, which distinguishes inflammatory diseases by the suffix "itis," it is called by authors and practitioners, Pneumonitis. A question might be asked, and very properly, What constitutes the parenchyma, or substance of the lungs? This question may be answered, by saying, that these terms refer to the air-cells, vesicles, or

alveoli, together with the bronchioles. These are lined by a membrane differing, both in structure and function, from that lining the division of the bronchial tubes. It may be known by its density, the absence of mucous follicles, and by a change of epithelium from the cylindrical and ciliated, to the squamous or dessellated variety. The air-cell and bronchioles make up the lobules, and these united by connective tissue, constitutes the lobes, into which each lung is divided.

Pneumonitis according to the severity and continuation of the attack is divided into Acute and Chronic. According to the amount of lung involved, into Lobular and Lobar. And according to the development of certain symptoms into Typhoid and Bilious.

Of these divisions, Acute Lobar is the one most often met with, and this form will receive greatest attention in this Thesis.

Acute Lobar Pneumonitis.

In this form the inflammation may involve

one, or more lobes. It is called Croupous Pneumonitis by German writers.

Anatomical characters.

An abnormal accumulation of blood, or Hyperæmia, is the first appreciable change here, as elsewhere, in inflammation. The inflamed portion of lung is heavier, than when in a normal state. If a section be made the cut surface presents a dark appearance, and blood and frothy serum flows more or less abundantly. The Hyperæmia does not

prevent the air entering the air-cells, but very soon there is an effusion, into the air-cells, of an albuminous fluid, which is shed followed by an exudation of a material from the blood, which soon coagulates, and prevents the entrance of air into the air-cells. After this has occurred, the lung is in the condition known as Hepatization. This name is given it from its resemblence to the liver. To this condition of the lung, has been given the term, Red Hepatization, which seems

to be incorrect. The lung in this state contains but little blood, and hence would present a pale, anaemic appearance.

When this red coloration is present, it is due to an unusual proportion of Red Globules in the exudation. In this condition the weight of the lung is very much increased.

The increase is in proportion to the amount of lung involved. If an entire lung be solidified, it may acquire an additional weight of four pounds. This increase in weight is due to the

amount of solid matter withdrawn from the blood. If this substance be examined with the microscope, it will be found to contain granular Fibrin or lymph, Epithelium, Fatty granules, Blood disks, and Leucocytes. When the progress of the disease is favorable, this exudation is gotten rid of by absorption, almost exclusively, and not by expectoration, as some have thought.

If the progress be unfavorable absorption does not take place and then the affected parts are in a condition of decay

Hepatization or purulent infiltration. If an incision be made in the lung in this condition, a purulent fluid flows freely.

Pleuritis, limited to the affected lobes, is generally developed coincidently with the pneumonia. The term pneumonia is given to this state of things. There is usually some Bronchitis, which affects the bronchial tubes of the affected lobes. The disease may run its whole course, without the development of these complications.

The right lung is more often

affected with Pneumonitis, than the left; and of this lung the lower lobe is most often primarily attacked. But to this rule, there are exceptions, for the lower lobe of the left lung is not infrequently first attacked. And so, may the upper lobe of right or left lung be first involved. This affection is usually confined to one lung, though both lungs may be involved. Then it is called double Pneumonitis. When a lobe is invaded, the inflammation commences at a certain

point, or points, and gradually extends over the entire of the lobe. The inflammation does not extend from one lobe to another, but when a second lobe is affected it is the seat of a new invasion.

Clinical History.

At different periods in the progress of this disease, different anatomical characters are found. The course of the disease is divided into three stages, based on these differences. These stages are known as the First, Second and Third. The first stage, or stage of

Engargement, embraces the period, during which the affeded lobe is in a state of active congestion. The second stage, or stage of Hepatization, embraces that period during which the lobes are becoming solidified. The third stage, if the disease progress favorably, embraces that period, during which absorption of the exuded matter is going on. If the course of the disease be unfavorable, the third stage is one of Gray Hepatization, or purulent Infiltration. The duration of each of these stages, vary

in different cases. The stage of Engorgement being of shortest duration. This stage very often last but a few hours. Its average duration is from twenty four to forty eight hours. In the majority of cases the second stage lasts from two to four days. The duration of the stage of Resolution varies from eight or ten days, to two or three weeks. If the disease has into the Persistent stage, it usually proves fatal death taking place in a few days. Acute pneumonitis is generally ushered in with a chill, frequently accompanied

dy rigors. At this period there is no increase of temperature, as shown by the thermometer, notwithstanding coldness exists as a subjective symptom.

The attacks are more often at night. The invasion is generally abrupt. Coincident with, or speedily following the chill, is the appearance of pain. This is acute in proportion to the amount of pleuritic involvement. The pain is principally due to this involvement, and is generally limited to a space at or near the nipple of the affected side. Cough

at this time is generally more or less prominent; though it may be wanting. It is frequently accompanied by expectoration, which is at first scanty, transparent, and viscid. In some cases the characteristic expectoration soon follows. It is semitransparent, adhesive, and has an iron rust color. Hence it is known as the rusty expectoration. This appearance is due to a small amount of blood it contains. When the amount of blood is considerable it produces the prune juice expectoration. With the invasion occur, febrile

movement, headache, loss of appetite, heat of skin, hurtling, accelerated pulse, increase of temperature, delirium in some cases, and increased respiration, which is generally in proportion to the pleuritic pain, and the interruption of the function of haematosis, in the portion of lung affected. The symptoms during the second stage undergo some changes. The pain diminishes in acute. The cough is less hard and painful, and the expectoration is effected with more ease. The matter expectorated now, is more abundant, less

adhesive, becomes viscous, and loses its rusty color. The febrile movement is lessened in intensity. Owing to the obstruction in the pulmonary circulation, the pulse is weak and deficient. The respirations are still increased in frequency, owing to the solidified portion of the lung taking no part in respiration.

During the stage of Resolution all the symptoms recede toward the normal condition. The febrile movements diminish and cease. The cough and expectoration become less and less. The respirations diminish in frequency.

The appetite returns, strength is gradually regained, and convalescence goes on to recovery. If the disease pass into the purulent stage the symptoms denote an unfavorable termination. The pulse became more frequent and feeble. The expectoration is abundant and purulent. The respirations are frequent and laborious.

The strength fails rapidly, and death takes place in a few days from Asthenia. The combination of other affections will involve the additional symptoms, which belong to those affections.

Pathological characters.

Part Pneumonitis is an inflammation affecting a structure reckoned to be a mucous membrane, but the mucous membrane in this situation differs both in structure and function from mucous membranes in other parts. The exudation of this part does not tend to form new tissue and adhesions as does the exudation from inflammations of mucous membranes in other parts.

The exudation in Pneumonitis comes from the blood, which circulates in the branches of the pulmonary artery.

Causation.

Statistics show that no period of life is exempt from Pneumonitis though. Acute Lobar Pneumonitis occurs seldom in children under five years old. And very seldom in persons over sixty years of age. Cases are more common among males, than females, which is due to the former being more exposed to the vicissitudes of the weather, than the latter.

Very frequently some unusual exposure will bring on an attack. Not unfrequently an attack is known to follow a debauch. It can not be said

that the abuse of Alcohol acts as a direct cause, but indirectly by leading to exposure, such as lying out doors all night &c.

Pneumonitis is not infrequently developed during the course of Typhoid and Typhus Fevers. It is not known that these diseases exert any causative influence.

Pulmonary diseases do not tend to eventuate in Pneumonitis.

Eminently is this correct in regard to Bronchitis. According to a pathological law, inflammation has no tendency to extend from one tissue to another, differing in structure, or function.

Exposure to cold is the most common cause of this affection. The fact of it occuring, in a vast majority of cases, during the cold seasons of the year is conclusive proof on this point. It is probable it cold only acts as an exciting cause, cooperating with a Diathetic condition, or predisposition.

It may be caused traumatically by injuries inflicted on the lut. When this is the cause the inflammation may affect only a portion of a lobe, and it rarely extends beyond a single lobe.

Diagnosis.

If the characteristic symptoms of Pneumonitis were present in all cases, the Diagnosis would present but little difficulty. But in a great many cases these symptoms are absent, or developed in a slight degree. Then we have to resort to something, which will give us more conclusive evidence of its existence. This we find in the Physical signs. If a person is attacked with a chill, followed by febrile movement, together with a Pleuritic stitch refered to a point near the nipple and the characteristic expectoration; the

Diagnosis can be readily and accurately made out. But these symptoms are absent in a great many cases. Then we have to rely on the Physical signs. These vary in the different stages.
In the first stage the signs which are generally present are, slight or moderate dullness on percussion, and the crepitant rale, which, if well developed almost justifies, of itself, a diagnosis. One precaution, however, must be observed, and that is not to confound it with the sub-crepitant rale.
The difference of the two is this:

The crepitant rale is a fine dry rale, and limited to inspiration. The sub-crepitant rale is a moist bubbling sound and may be heard in expiration as well as in inspiration. If the crepitant rale be absent, we then depend on the Bronchio-vesicular respiration.

The signs of the second stage are, increased fullness on percussion, which may amount to flatness. Bronchial respiration, and Bronchophony. In the third stage if the progress of the disease be favorable, the signs all recede toward the normal. The bronchial respiration is replaced by the

bronchio-vesicular, and this slowly merges into the normal vesicular murmur. The dullness on percussion becomes clearer and clearer. The characters of bronchophony are gradually lost. If the disease progresses to suppuration, the dullness or flatness on percussion continues. Moist bronchial rales, due to pus in the air tubes, are prominent. Bronchophony continues, but is less marked.

Prognosis.

The Prognosis will depend very greatly on the previous condition of the patient; the extent of lung

involved, the complications, and the diseases with which it is connected as an intercurrent disease.
When Acute Pneumonia occurs as a primary disease, the patient having a fair constitution, the extent of lung involved not being very great and uncomplicated, the intrinsic tendency is towards recovery. Of 750 cases reported by Dr. Dietl, of Vienna, out of which there were 68 deaths. And every one of these had some complication.
Of 133 cases analyzed by Dr. Flint, in only two cases was the inflammation limited to one lobe, and void of complications.

In one of these cases the inflammation was seated in an upper lobe and eventuated in abscess. Prof. Flint reports another case in which the entire of one lung was involved, and the patient situated in very bad hygienic condition, being attacked while alongside a shanty, and remaining in this condition for a week, having no medication during that time but some brandy, during which time he drank a quart. At the end of this time he was visited by some one, (not a Physician,) who gave him a large dose

I calomel and left him to the fate that awaited him.

At the expiration of ten more days he was treated with quinine and removed to a hospital, where his true condition was ascertained, and it was found that the entire of the right lung was involved. From this time convalescence went on rapidly, until recovery was reached. This case leads me to conclude, that the danger of this disease depends greatly on incidental circumstances, and not on the disease direct. If developed during the

cause of low fever, or other severe diseases, it is apt to terminate fatally. Occuring in persons affected with organic disease of the heart, it is much more serious. Symptoms which are unfavorable are, frequency and feebleness of pulse. Frequent and labored respiration. Purulent or muco purulent expectoration. The prune juice expectoration. The presence of typhoid condition. Active delirium is very unfavorable. Death generally takes place from Asthenia and Apnoea. When convalescence occurs, it generally

gues on to complete recovery It has little tendency to collapse or to the production of other diseases.

Chronic Pneumonitis.

The term Chronic Pneumonitis denotes a morbid condition characterized by Hypertrophia or morbid growth of the connective tissue, which holds together the cells, vessels, and lobules of the lungs. To this affection, have been given different definitions, by different Authors. Carrigan described this affection under the name of Cirrhosis of the lung. Rokitansky called it Interstitial Pneumonitis.

There are no inflammatory products exuded into the air cells or alveoli. Bastian and others say, it is not an inflammatory process.

Chronic Pneumonitis may be secondary to other pulmonary diseases especially of tuberculous diseases. The pulmonary structure becomes dense, resisting, and tough.

There is more or less contraction of the lung, on account of the air being expelled from the vesicles, by pressure of the extra vesicular morbid growth. The lung on section presents a dark or gray color. This affection is almost always unilateral, and the

greater part, or whole of the lung is apt to be affected. Dilitation of the bronchial tubes is often associated with this affection, and cavities are found in the lungs.

Of the Etiology of this disease, we have no positive knowledge. In a very small proportion of cases it has been known to follow the acute form. It has been known to follow Bronchitis in a few cases. The local symptoms are, cough, more or less expectoration, and shortness of breath. Of the 30 cases analy-zed by Bastian, Haemoptysis occurred in over half the cases.

Emaciation and debility come on sooner or later. The appetite fails. Diarrhoea is not uncommon.

Owing to dilitation of the right side of the heart, dropsy occurres in a considerable number of cases.

Physical signs.

The Physical signs are, contraction of the chest, dullness on percussion, & tympanitic resonance, bronchous respiration may be heard in different parts of the chest. In other situations of the chest the respiration may be bronchial or tubular. Bronchophony and increased

vocal resonance denote solidification of the lung. The diseases from which it is to be diagnosed are, chronic pleurisy, carcinoma, and phthisis. After the removal of the effused liquid in chronic pleurisy the signs denoting solidification cease, while in chronic pneumonia they continue.

Carcinoma of the lung is generally secondary to carcinomatous development elsewhere in the body. Phthisis generally affects both lungs while chronic pneumonitis is generally unilateral.

This affection is irremediable, and sooner or later, ends fatally.

Treatment.

Perhaps there is no disease known to the medical profession whose treatment has varied so much at different periods of time, as that of Pneumonitis. At one time it was thought, and taught, that the only proper treatment consisted in heroic antiphlogistic remedies, such as general blood letting and active purgation. The lancet was used, whenever Pneumonitis was found to exist, indiscriminately, and often, no doubt, injuriously. But this mode of treatment has passed away to a great extent,

and is so given place to an almost direct opposite one, viz. a sustaining one. The different stages present different therapeutical indications.

Can the disease be abarted?

No doubt in a small proportion of cases abortive remedies prove successful. These should be used in the first stage, and the extent, to which they may be used, must depend on the condition, and constitution of the patient.

If the patient be plethoric and robust some blood may be drawn to advantage, or active cathartics may be given, which may reduce the severity of the inflammation, if not abort it. But

perhaps a better plan of treatment consist in getting the patient into the best possible condition to endure the disease. Especially in this time of feeble constitutions.

The intensity of the inflammation should be diminished and this can generally be done by the employment of saline cathartics and arterial sedatives, of which perhaps there are none better than Tr. Aconite Rad. and Tr. Verat. viride. The nitrous powder is very useful in this stage.

Opium may be given to allay pain and tranquilize the system. Local applications are

beneficial, such as warm fomentations, dry cupping, stimulating liniments, turpentine stupes, and sinapisms, which should not be carried to blistering.

Niemeyer recommends the application of cold water to the painful parts. This is rather an uncomfortable procedure, and perhaps a less disagreeable tepid bath would be preferable. The indications of the second stage are to promote absorption of the exudation, palliation of symptoms and to sustain the powers of the system. Depletion in this stage, as a rule, is not

called for. Dennee extoled the value of Tartar Emetic as a sorbefacient, but it has been shown that its utility in this regard is doubtful. Mercury has been recommended in this stage to promote absorption. And perhaps, in small doses, it does some good. Especially when Rheumatic symptoms are present. Iodine used both internally and locally, perhaps exerts more good in this stage than any other remedy, as a sorbefacient. Opium may be continued to relieve pain, vigilance, and constitutional disturbances.

Expectorants may be given in

this stage. The leading indications are to support the system. This is accomplished by the use of tonics, stimulants, and nutritious food.

Of the tonics, Quinia is at the head. The Comp. Fr. Bark is a valuable remedy. Of the stimulants Alcohol, in some form, is preferable. Especially are the Alcoholic stimulants indicated, where Typhoid symptoms are present. The Carb. and Muriate of Ammonia are valuable remedies to prevent the degeneration of the heart cloth. The diet should be light and nutritious, such as milk, beef tea, animal broths, light bread and tea &c. The treatment

of chronic pneumonitis should embrace maintenance of nutrition and strength. To do this proper hygiene must be observed, and remedies to promote appetite and digestion. Expectorants may be given to allay cough. The inhalation of vapor of turpentine is useful, and carbolic acid vapor or spray may be inhaled, when the expectoration is fœtid.

An Inaugural Dissertation
on
Opsiomania,
Submitted to the examination
of the
Provost Regents and Faculty of Physic
of the
University of Maryland,
for the degree of
Doctor of Medicine,
by
Henry G. Houston

Spanaemia

Synonyms - Anaemia, Hydraemia, In young women before puberty, Chlorosis. Impoverished blood - Deficiency of red corpuscles

In writing a Thesis on this subject I might mention all the known diseases, except Plethora, but my intention is only to describe a few, which strike me as being peculiar.

Before describing the symptoms of this state it would be well to take a glance at the functions of the blood, in its normal healthy state.

"The Blood is the fluid Body, and the Body is solid Blood"

Arterial blood contains all the materials

for the support and maintainance of the body, constantly receiving new supplies of the material through the Lungs, Digestive and absorbent systems, and carrying them to the different parts of the body. Being also the channel by which the different organs get rid of the effete matter which is useless, or not needed for their support; carrying these gases and materials to the Lungs, Kidneys, Sudoriferous and intestinal glands to be excreted. When we consider the blood merely as the carrier of Oxygen, which is so necessary to our existence, and then think of the change it has undergone in Anæmia we can account for many of the following

Symptoms

A pale countenance, hurried breathing, with palpitation and irregularity of heart's action, on slight exertion. The latter often gives patient great uneasiness for fear they have heart disease, especially if, as is often the case, they have some of dyspepsia - pain in praecordial region &c - In some of these cases if you will place your ear, or a stethoscope, over the base of heart, or over jugulars, a soft murmur can be heard, and this with the slight oedema of the lower extremities, which is sometimes present in Spanaemia, may lead the physician to a mistake in diagnosis, unless he is [illegible]. Vague wandering pains in back, limbs and head are sometimes complained of, especially the latter - A feeling of languor,

as the patient expresses it "I feel good for nothing" There may be a slight nervous cough with night sweats, resembling Phthisis. An examination of the chest, by auscultation and percussion, will dispel any doubts on that question, however. Constipation is often troublesome, from torpidity of bowels and want of exercise -- Diarrhoea may supervene but not often - Nervousness. Throbbing of arteries - Prof. McSherry states that Insanity may be caused by Spanaemia. Dyspepsia is often a cause of, and accompanies Spanaemia frequently - Amenorrhoea, Menorrhagia, Anteflexion and other Uterine troubles may supervene - The patient, if a young woman, often complains of Emansio Mensium - (Chlorosis)

In those cases of young females, which often give physicians so much trouble and are so obstinate, I am of the opinion that many of them are caused as follows. A young girl of 15 or 16 years is attending boarding school, she is expected and is anxious to graduate the next year, so she studies hard, takes little exercise, looses her appetite for wholesome and substantial food, especially meat, but not for sweet meats. Now, about this time, nature begins those changes which are to transform the girl to a woman, and to accomplish these changes, an unusual supply of nutritive material is required, to develop her mammæ, genital organs and to give to the form

that symmetry, we all admire so much.
The stomach, rendered weak and being unaccustomed to digest substantial food in sufficient quantity to supply the increased demand of the system; it is imperfectly supplied at the expense of the blood; and the causes continuing the ultimate consequence is Anæmia or Chlorosis.
If the girl is prevailed on to take proper food now, the stomach being predisposed to the secretion of mucus, by the previous ingestion of sweet meats, (which mucus hinders the digestion) and the blood being reduced in its normal constituents, is no longer able to supply the necessary materials to the liver and other digestive organs, to enable them to secrete Gastric and Pancreatic juices and other

digestive fluids in abundance, in response to the stimulus of food; consequently part of the food ingested lies in the stomach undigested, undergoes fermentation, then there is acid eructations, sick headache, nausea and, finally, the stomach rids itself of offending matter by vomiting. Or, as occasionally happens, half digested lumps pass into the intestines and produce irritation diarrhoea. So the patient derives but little, if any, benefit from what was eaten.

This dyspepsia is, in many cases, owing to torpidity of the muscular walls of the stomach. In health the stomach keeps up a sort of peristaltic action, by which the contents formed, if not absorbed from the stomach, is brought round to the pylorus, with a part of the fats and starch set free

and passed out, while the remaining contents of the stomach is moved around and mixed with the Gastric juice, thus preventing the pylorus formed from shielding the remaining proteids from the action of the Gastric juice. In Spanaemia I think this is but imperfectly performed, and further more I doubt whether the Pancreas and Liver do their proper duty, as fats are distasteful to such patients and do not seem to be assimilated.

Oxygen being so necessary to life, it leads to reason that a deficiency in the number of oxygen carriers would be, and therefore, a deficiency of oxygen, must be detrimental, and such is proved to be the fact, by the hurried breathing and increased heart action on a little exertion.

The feeling of languor, experienced by the anaemic

individuals, renders anything like exercise distasteful to them and, left to their own inclinations they will lie down or recline in a chair most of their time. — Vide the case so graphically described by Prof Meiggs, in his work; "Women and their Diseases". — This want of exercise renders the muscles lax and atonic. A muscle not used becomes limpy and loses tonicity. Now upon any ~~unusual~~ unusual exertion the muscles being not in active exercise, in contracting, propel the venous blood to the heart, giving that organ an increased amount of work to do to send this blood to the Lungs, and as "the cardiac inhibitory center" does not receive its normal stimulus, such health, [illegible], it is no longer able to exert its influence over the heart, consequently

its movement [illegible] quick. The contractions are, however, weak and imperfect, owing to the atonic condition of the heart muscle, and, probably, the cardiac ganglia suffering from a like cause as that affecting the pneumogastric [illegible] for supplying [illegible], arterial blood. The weak heart not being able to make full, strong contractions, the above provision is made to enable it to discharge the blood forced to its right auricle by the contracting muscles; and to supply those muscles with arterial blood. That is to say, it forces the same amount of blood to the Lungs and system generally by many weak, [illegible] contractions, as a sound heart would do in fewer, stronger contractions.

The contracting muscles which for

blood to [illegible] in consequence [illegible] of oxygen and [illegible] material excreting [illegible] when [illegible] quiet, and [illegible] result, [illegible] there is [illegible] through the [illegible] coats, [illegible] vitalizing [illegible], [illegible] under [illegible] [illegible] the lungs and [illegible] [illegible], [illegible] to accumulate [illegible].

This [illegible] breathing keeps the [illegible] in the lungs [illegible] charged with oxygen. [illegible] breathing would, and [illegible] the quickly [illegible] [illegible] would be [illegible]. And, since [illegible] carbonic [illegible] deficient [illegible], it is necessary that [illegible] should [illegible] a full supply of this gas.

Thus we see in sedentary [illegible] and quick breathing [illegible] for the want of red corpuscles.

Sedentary persons, being often nervous and excitable, suffer from nervous palpitation of the heart. The want of the [illegible] [illegible] [illegible] [illegible] [illegible]. The heart being in such close sympathy with the stomach, indigestion is [illegible] [illegible] [illegible]

Those wandering and obscure pains [illegible] to before, first in [illegible] then in [illegible] & somewhere else, are supposed to be the cry [illegible] want of the [illegible] the necessaries of life, (or more [illegible]-pally) [illegible] the [illegible] blood [illegible] not being in sufficient [illegible] — [illegible] [illegible] [illegible] and [illegible] of the [illegible], which sedentary persons suffer with, are [illegible]

irritation to the stomach, acting by sympathy through the nervous system.

The cases of [illegible], spoken of by Prof. [illegible], serve to show to what an extent the nervous system may be affected.

Pulsating tumors usually in abdomen, may cause the patient discomfort, and lead the physician to suspect aneurism. The relation of albuminous urine, is [illegible] and changeable. One day it [illegible] and the next the urine, or is [illegible] with [illegible] other [illegible]. The [illegible] must be constant in all respects. So the [illegible] in this particular disease.

The watery consistence of the blood, bad state of the vessels and soft tissues, the effusion of serum into the areolar tissues,

which account for the oedema of lower extremities referred to in preceding page.

The ligaments of the Uterus, in keeping with the rest of the body, lose their tonicity and do not afford proper support to that organ, which will account for many of the displacements (antiflexion principally) in young, unmarried women. With the tendency that the Uterus has before puberty to anteflexion, it does not take a great deal to produce that displacement, especially if the ligaments want tone. The increased weight from the physiological hyperaemia at menstrual period, together with constipation, which, I stated before, often existed with spanaemia, are very apt to cause anteflexion

The rectum gets packed and distended with fecal matter, presses the fundus Uteri forward, then straining at stool forces the intestines down upon the Uterus, while in this forward position and tend to drive the fundus down behind the symphysis pubis, and unless this state of affairs is recognized and relieved, Leucorrhoea with congestion of the Uterus, cervical metritis, Leucorrhoea &c, with all their train of symptoms may subsist.

Owing to the impoverished state of the blood, the Uterus and ovaries may not receive their proper stimulus and nourishment, and the Graffian vesicle fail to throw off the ovum; Amenorrhoea. Or the Uterus may not come to maturity; Emmenia Menseum, from congenital

small atoms. On the other hand the ovaries may perform their function normally but the blood being so thin and watery, the flow is too profuse or long continued; [illegible] Vice versa, a long continued menorrhagia may cause Spanaemia.

Prof Miles seems to think that the paralysis, which oft. follows Diptheria, is owing to Spanaemia. The imperfectly nourished centers not performing their function. It can not be denied, however, he remarks, that the local affection has something to do with those cases of paralysis of the muscles of deglutition.

In those cases of dilitation of the heart, after acute diseases, cured by Iron, I am inclined to think that the atonic condition of the hearts muscular fibers, allows that

organ to dilate more than natural, and as the tonicity of the system is restored by tonics, exercise and good food, the heart regains its normal size.

"Hospital Anaemia"

Sometimes met with in crowded hospitals, in persons suffering from obstinate constipation. The fecal matter remaining in the bowel so long that part of the effete material is absorbed, and acts as a blood poison; hindering the formation of blood corpuscles, or disorganizing some of them when formed.

Anaemia

from Chronic Malarial poisoning

Individuals living in malarial districts, and suffering for a long time with chills and fever, are apt to be affected as follows.

Sallow complexion, constipation, languor, enlarged spleen and liver, albuminuria, with oedema of lower extremities and, sometimes, ascites. Such persons are usually much emaciated, and unless one is on his guard, he might pronounce such a case one of Bright's disease.

Anaemia [illegible]

in Pregnant Women

[illegible] woman, having to supply material for the [illegible] growth of the [illegible] in her womb, as well as her own [illegible], it [illegible] [illegible] digestive [illegible] [illegible] [illegible] [illegible], [illegible], [illegible], the [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible],

[illegible] abdominal cavity, [illegible] other digestive organs [illegible] them; all combining to [illegible] the [illegible] and other [illegible] &c.

Now, with these derangements and the increased need of [illegible] assimilation, the lungs cannot do enough, and the blood [illegible], and, unless [illegible] to cause the [illegible], it goes [illegible] worse and when the cause comes to [illegible], [illegible] be [illegible] to complete [illegible]. Or, the [illegible] that [illegible] the [illegible].

[illegible]

[illegible] to do so. [illegible]
[illegible] the [illegible], [illegible] [illegible]
free pulp of the root from the [illegible],
condition [illegible] and the root
[illegible] [illegible].

After [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible]

This is [illegible] by [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible],
[illegible] [illegible], [illegible] [illegible]
[illegible] [illegible] [illegible]. In some
cases, it will be [illegible] that
[illegible] [illegible], [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]

Treatment

In all a Physician's experience, [illegible] more troublesome than a [illegible] woman. If the disease was acute, and [illegible] at hospital, [illegible] would encounter no trouble in [illegible] this time consent [illegible], but as [illegible] as the patient is out of bed, [illegible] because she feel [illegible] necessary to [illegible] of [illegible] and [illegible] otherwise. [illegible] to perform [illegible], [illegible] week, and if [illegible] the fourth, [illegible] all [illegible] the [illegible] [illegible] and [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] times; [illegible] believe, they will [illegible] other [illegible].

I would [illegible], in [illegible] way, be [illegible] to [illegible] and [illegible], and it will take time and patience to [illegible] a case, and [illegible] discouraged.

The first object to be attained in a case of this kind is to get the digestive organs in a better condition, and relieve constipation.

In the way of medicine, one might begin with a saline cathartic, or if there is bran and [illegible] on of the bowels, a [illegible] of [illegible] and [illegible]; 5 or 8 gr at bed time, for a day or two. After the bowels are well moved, a pill containing Bitter [illegible], Iron and

Glycerin or Ext. Nux Vomica would be good -
say, 1 or 2 drops Ext. ℥j – ℥30 or Glycerin ℥j;
1 or 2 drops Nux vomica, made into one pill.
Dose one three times daily after meals.
The iron to provide the red medical
constituent of the blood & the Nux is a
stomachic tonic and the Glycerin is
lose as the bowels & liver. It also
stimulates the blood making organs and
marrow (Barbados).

If there is dysgeusia, with anorexia and
vomiting of mucus sometimes after eating;
one or two ounces of the Im. Sodium Comp.
with 5 or 10 Gr. Carb. Soda. Lab. & Mucus,
and an increased secretion of Gastric
juice and prevent this indigestion. Or,
the following will often do if mucus is the

same cases, if given after meals.

Acid Nitric ℥ ss

Acid Muriatic ℥ ss

Aqua ℥ j M

Sig. Five drops in some bitter infusion after meals.

Few drops of the dilute nitric acid will often answer the same purpose. You may use the sine-form Calcarea with excellent effect in these cases; giving it after meals. I think these cases of deficiency of acid in the stomach, are the ones in which the disease first has brought about such favorable results and proved to be the revelation to a Chalybeate.

Never forget to dilute all acids to be taken through a tube, and for the mouth to be rinsed with soda water after each dose. Also avoid such medicines as will stimulate.

A glass of milk with lime water (calcis 1/3) in it, will often relieve nausea and arrest vomiting. Must not be taken as soon as the pulsing of nausea comes on.

If the mother vomited in sleep, give an alkali immediately on awaking or the last thing. Effervescing drinks are pleasant and useful. Bicarbonate of soda is recommended in early vomiting. 10 grs. drops of Muriatic acid Mixt. (10 gt to 15) before meals, is used to prevent the nausea of ulcer.

In persons of a nervous temperament I have found the Sesquipsi of iron act better than any other preparation. The Tincture used in this case seems to have a good effect on the nervous system. I have it made into pills of 1 gr. each

with plenty of milk and sugar, and plenty of
ripe fruit and meat. Your gum seems
to be all that is expected, and I
have found that some pus cavities are
rapidly improved in their healing.

I think that it will be necessary for Dr. Clark
to give you an opinion, and respecting
the fact not only as to what will
be advisable in the future, in which the
world is yours.

The skin has a black accumulation
which may be anticipated by antiseptics.

I am proud to publishing this fact.

Prolonc Cotton 4 oz

Iodoform Chloride 2 oz

Iodoform Calcium 2 oz ℞

Sig. Alternate with [illegible]

Attention to diet is, however, the most important part of the treatment for dysentery and the prevent constipation.

Sulphate of Manganese is said to be excellent in the treatment of phthisis. The saccharated carb. of Iron & Manganese is highly spoken of. Of course, iron in all its forms can be used, I have never employed these. All I can give myself.

All the medicine in the world will do no good, unless the patient takes sufficient exercise in the fresh air and seen God, has good substantial food and is properly clothed. Fresh air and disinfection must be considered. The evidence must be supplied by

the strength of the patient. If she is not able to take long walks or rides, exercise will about one mile per day would have a day, gradually increasing the distance from day to day, but always allowing her to select the exercise, to produce exhaustion. Horse back exercise is excellent. The hour after breakfast is a good time for the morning walk or ride, and two hours after dinner another constitutional may be taken. Exercise to be taken after meals is not good, because the exercising limbs attract a large amount of blood to themselves and the digestive organs are not so able to get a sufficient quantity. Neither do I approve of a heartfeed

which is [illegible] by some to be good.
If the patient prefers tea or coffee, it is best to take a cup of chocolate with bread, or a glass of milk before going out.
Regularity as to hours of taking is of great importance, as well as rest after each meal.

Breakfast at 8 or 9 o'clock consisting of beef steak, (rare if you can get the patient to eat it so) toast or cold bread, [illegible] or cracked wheat. Coffee or tea as a necessary [illegible]. Cracked wheat, brown bread &c have a very good mechanical effect on the bowels; exciting peristaltic action and preventing constipation.
Dinner at 1 or 2 o'clock at which roast [illegible]

Soup, game and fish may be allowed, with such vegetables as are found to agree with the particular person. Pork, veal and the rich dressings of poultry, I have noticed usually give trouble. Figs and stewed prunes are good in constipation. Grapes for dyspeptics. Fasting and [illegible] usually disagree with the stomach.

A light supper at [illegible], consisting of Tea, Coffee or Milk, toast and crackers with butter — Warm bread, unless it be corn bread, is not good. Eating between meals is a bad habit, since it gives the stomach no time to rest and one is apt to overload it with unsubstantial food, which destroys the appetite for the regular meals.

A glass of Beer or Ale, three times a day

is sometimes found to be of service. In cases of insomnia from debility, the brain excited, a glass of beer, just before retiring, often works wonders of a sound sleep. I have seen two cases of this in young women. However, one suffered with an affection of the eye, from which she opens with slight intolerance of vision, even the use of water. One of them, who said drinking it, was relieved; but her friends insisted on her to take it again, saying, "a medical student knows nothing about it". She was compelled however to desist by the return of the eye trouble, which again disappeared on removal of the cause.

Amenorrhoea and Menorrhagia, when there is no displacement of the uterus or disease of genital organs, need no special treatment.

anæmia being the cause, the effect passes off with improvement of the general health.

In cases of displacement (only) (in most cases of unmarried women) the following symptoms will indicate, pretty conclusively, what the trouble is, and you may be called in, for the first time, to relieve —, Dismenorrhœa. And if the uterus completely turned over with pain due under the pubes is very great pain. When the neck is placed forward on the body, the pain may pass off about the second day. There may be cystic and rectal irritation with pain in defecation &c. Locomotion is not to be interfered with. Leucorrhœa or menorrhagia. Neuralgic pains about pelvis. These symptoms would compel one to

demand a digital examination in order to heal the case, not of

In a Thesis on Spanaemia, I hardly think it within my province to discuss, or go into the treatment of, Uterine displacements, therefore I will pass on to the discussion of the

Treatment of Hospital Anaemia.

The indications are, to keep the bowels free by laxatives and diet: as much exercise as the patient can take without fatigue. A tonic of Quinia and Ext Nux Vomica. Bitter tonics with iron, or iron alone.

Diphtheria

If we must allow the patient taking nourishment and some stimulant from the beginning, I think we can modify,

if not prevent, the sequel, paralysis.
I know it is a hard matter to get them to eat, but by a little persuasion, we can usually induce them to drink milk, or milk toddy. Make the latter weak.

I have used the following, internally and as a gargle, or spray to the throat, with good results.

℞ gr Chlorate Pot.
1 ʒ Fluid Extract
1 ʒ Aqua

Dissolve the potash in the water then add the brandy. Dig. A teaspoonful every hour. In simple sore throat, stomatitis, thrush &c this wash is excellent

Treatment of Chronic Malaria

Evacuate the bowels with Pot. Bitartrate and Jalap. Pulvis Jalap Comp. ℥ ʒ, with 2 ʒ Bitartrate of Potash. Give three or four such doses, one dose per day. Pills of 6 gr Hydrarg C. Creta; 3 gr Aloes; ½ gr Ext. Hyoscyam. each, act well. After the bowels have been well moved, give Quinia and iron, with aloes if you think necessary. Quinia sulp. 5 gr; Ferri Sulp (dried) ℥ss in one pill. One grain of powdered aloes may be added to above. One pill three times day. The Quinia may be given in larger doses if necessary. Huxam's tinct. is frequently prescribed. Arsenic produces good results in Malaria, when quinia can not be given. It is

especially efficacious in chronic cases.
Barthalow advises 1/20 gr. doses of the acid
with 3 gr Carb Iron, three times per day.
It is said to diminish engorgement of
the spleen. Arsenic, Iron and quinia
may be given together. Quinia sulp. 2 gr;
Ferri sulp. Exsic. 2 gr; arsenious acid 1/20 gr;
mono pill. One three times day.
Local application of Ung. Hydg. Iodid.
Rub. to spleen, and Comp. Iodine ointment
over liver, are serviceable. The intestinal
canal demands especial attention in these
cases. The bowels may have to be kept loose
for a time, to relieve the oedema.
Plenty of good food, and warm clothes are
important.

In case of Pregnancy direct your treatment to the cause of the trouble. You know it is inevitable if the vomiting and constipation are not relieved. Caution is necessary in the use of purges; only very mild ones, such as Sulphur and Castor oil, are admissable. Warm enemata are serviceable. Let her diet consist of easily digested food, and such articles as have some mechanical effect on the bowels; Cracked wheat, Oat meal and mezio. Rare beef I think best. Milk is too constipating. To prevent vomiting there are many drugs used. Effervescing draughts; one half drop doses of creasote or carbolic acid, in water; Oxalate of Cerium, 2 to 4 gr, in pill

or mucilage; drop doses of Fowler's solution, or Tinc Nux Vomica; use Iodine, one drop doses; Iced Brandy; small doses wine of Ipecac every hour; Milk and lime water; hydrocyanic acid; [illegible].

If oedema of lower extremities supervenes, put patient in horizontal position, but not on her back, and keep her in bed several days. When labor comes on be prepared for emergencies. Have instruments on hand; use to stop hemorrhage; Ergot &c. Never leave the patient until the Uterus is thoroughly and permanently contracted. Keep her confined to bed for, at least, ten days after labor.

Those suffering from Pernicious Anaemia must be placed under the best hygienic treatment. Tonics, Chalybeates, good food, warm clothing; Cod liver oil, I should think, would be good. If brought on by exposure or overwork, stop the cause.

I could write much more on this subject, but fear that I have already exhausted the readers patience; so, will submit the thesis as it is to the consideration of the faculty, hoping the Gentlemen remember that they were students themselves at one time, and will be lenient in their criticisms

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A dissertation on

Neuralgia

by

C. Power Hoffman
Maryland

March 1881.

Neuralgia.

The word Neuralgia, is derived from the Greek, signifying nerve pain; and literally means a non inflammatory pain in a nerve, without other disorder, unless the nerve or centre be involved. It may affect any of the sensory nerves as Tic douloureux, Hemicrania, Sciatica, Pleurodynia, Gastodynia, and Angina Pectoris; though the last two, affect nerves which have in health no sensibility; the term in fact includes those pains which appear in various segments of nerves from their origin to their periphery, and is usually paroxysmal, either spontaneous or upon pressure on certain points. Pain production requires a quick reaction of a feeble stimulus upon the fibres, though a violent irritation

may by its intensity replace the slowness of propagation; any nutritive disturbance in the myeline might also cause pain; according to experiments by Schiff, in hyperæsthetic nerves, the receptivity to stimuli but not the conducting-power is increased. The periodical return of neuralgia may be due to the fact that the internal organic stimuli act at intervals; as those fibres which are distributed to the skin enter the trunks from the exterior at different heights, compression will affect external fibres earlier than internal, it follows from this that the pain appears to run along the course of the nerves from above downwards; those shooting pains along the nerve trunks are produced under the influence of strong rapidly acting stimuli, such as

a sudden shock to the elbow, or from the effects of intense cold; an irritation of the intramedullary sensory fibres in the gray columns, will be transformed into painful sensations in the terminal expansions of the nerve; the posterior roots of the spinal nerves, the numerous sensory filaments situated between the external integument and the aponeuroses, and penetrating in part into the muscles are furnish weak points which may give rise to neuralgias; in the vast network of the peripheral nervous system when there is irritation in a centre we can understand why the terminal nervous apparatus which is affected with intermittent pains does not present any morbid change: changes in tissue are sometimes observed in sensory peripheral affections, under this we have swelling

of nerves, and granular opacity of the myeline, with periostitis of the osseous orifices, thickening of nerve sheaths from inflammation of surrounding parts, proliferation of connective tissue between the nerve bundles, and of cancer cells between the fibres; the node like swellings of nerves in amputation stumps may also form causes for neuralgia; we may also in this connection mention the compression made by tumors, vertebral affections, and venous stases in nerve tissues; however the three principal causes are, 1st. Local disease affecting a nerve. 2nd A morbid state of a sensorial nerve centre. 3rd A morbid condition of the blood. A neuralgia fixed or returning in the same spot is likely although not certain to depend upon a fault in the nerve itself;

as a neuroma. Radiating pain if not reflex, must involve at least part of a nerve centre. Flying pains which are not long seated in one part of the body, are generally due to defect, or morbid blood poison, as from malaria or gout. Pain constitutes the chief phenomenon among the symptoms of neuralgia, in most cases it is confined to the anatomical course of the nerves and appears in paroxysmal form, these paroxysms may be separated by complete intermissions or merely by remissions; the pain is described as shooting, tearing, piercing, pricking, burning, etc; ataxia dolorosa and facial neuralgias are the forms which give rise to the most violent paroxysms; certain points frequently constitute the site of the pains; they may also be propagated to other branches

of the nerve roots and they almost always radiate from the centre to the periphery, or again in the opposite direction; the "tumeta dolorosa" which form such an important characteristic of neuralgia was first discovered by Valleix; these points are most frequently found at the place of exit of the nerves from their bony canals, when they pass through muscular or aponeurotic orifices, or in regions in which important cutaneous nerves anastomose with each other; they constitute circumscribed painful spots as a rule, which may be discovered by exploration, pressing along the course of the nerves with the finger, and are found in the majority of neuralgias; then again we find cases in which they appear only during the paroxysms, and at other times are absent:

In doubtful cases these points may be discovered by electrical exploration, either the continuous or induced current being used: the pains in neuralgia may extend secondarily to other nerve filiments or may be propagated by irradiation to remote parts, in cases of extreme irritability of the nervous system. Neuralgias are not infrequently accompanied by peculiar reflex symptoms; this is explained by the numerous communications of the posterior root fibres with the gray substance of the cord. Contractions of the muscles of the face follow the sensori irritation in facial neuralgias. In neuralgia of the limbs they are the seat of more or less extensive muscular spasms. The rythm of the movements

of the heart and of respiration may also be changed: it has even been observed in rare cases that muscular spasms have been replaced by neuralgia: finally we classify among the reflex acts, vaso motor disturbances, produced by irritation of the sympathetic nerve fibres (which are intermingled with sensory fibres): these include the anomalies of secretion, and circulation, which are observed in neuralgias; the cutaneous eruptions, and the disorders of nutrition.

Etiology — The etiology is considerably obscure: the causes vary considerably, but may be divided into general and local; among the former the most important is the abnormal excitability of the nervous system, either in the central organs or the peripheral expansions. It may be

hereditary or produced by external influences, as a sample of the former fathers, suffering from nervous affections very often transmit to their sons a predisposition to nervous troubles and neuralgia: mothers who are neuralgic transmit various forms of it to their daughters. There has been a doubtful theory advanced which presupposes an hereditary weakness of the nerve cells of the posterior column, which after prolonged centripetal irritation would lead to interstitial atrophy of those cells, terminating either in recovery, or degeneration. Again, there are certain influences predisposing to neuralgia; they are, Sex, Age, Season, Climate & Disease. Sex possesses a certain influence, we find neuralgias much more common in females

than male; and certain forms are more common to one than the other, for instance, we have in the female: intercostal, lumbo-abdominal etc, more especially so as up to thirty years of age women are more exposed to neuralgia than men, this may be attributed in great part to the sexual conditions, menstruation, Chlorosis, pregnancy etc, in men we find scialica more frequent. Age has an influence in neuralgia as we find it more common in the old and debilitated. The season of the year, as winter and the cold damp months. A changeable and cold climate, especially if in a Malarial country, I should think would predispose to it. Lastly we have disease, breaking down the constitution

and leaving an inroad for neuralgia, as in subjects of chronic anaemia, and other blood disorders. The development and return of neuralgias is frequently caused by residence in cold damp houses, especially if they are exposed to the wind: these are some of the principal general causes of neuralgia, and I will now give some of the local causes: most common, these are either central or peripheral, the central proceed from the brain or cord; among cerebral causes certain congestive conditions (as congestive apoplexy); or neuralgia may follow from inflammation, tumors, sclerosis, ~~and~~ or softening; spinal affections at their commencement may simulate neuralgias: lancinating pains with cutaneous hyperaesthesia are

a frequent initial symptom of ataxia: A spondylitis of upper segment of vertebral column is often accompanied by cervical, brachial or intercostal neuralgia: in this category, we may also place a large number of hysterical, dyscrasic, and toxic neuralgias: we may mention among the peripheral causes lesions of nerves or their sheaths, from injury; as from contusion of shoulder we may have obstinate and long continued neuralgia of that arm also compression, laceration, inflammation: an inflammation of bone, especially of the orifices through which the nerves are transmitted; rheumatic affections of articular and muscular nerve fibres; venous stases near a nerve, and atheroma of arteries, compression, as from

degenerated glands, neoplasms, syphilitic gummata, foreign bodies, and affections of internal organs, in all these cases the character of the cause influences much the neuralgic phenomena. The diagnosis of neuralgias are generally found to be much less difficult than their localization: recurring paroxysmal pains along the course of nerves presenting certain puncta dolorosa, point to the neuralgic character of the affection, in the absence of these a diagnosis would be more or less uncertain: as neuralgia is generally symptomatic of some morbid state it is best to try and discover the primary source of the neuralgic symptoms. It is best in dealing with neuralgia both in regard to

prognosis and treatment, to find out whether it is merely an expression of local irritation, or the peripheral indication of central morbid processes. In most cases we can form an opinion concerning the nature of neuralgia by carefully considering the other morbid phenomena: it sometimes takes us a long time to ferret out the cause of a neuralgia. Spinal neuralgiae are generally preceded by early paraesthesia. Cerebral forms are accompanied by headache, especially in forehead and temples, they develop* on one-half of the body and appear as tearing pains along the course of certain nerves, accompanied with reflex facial contractions and general hyperaesthesia and psychical symptoms. Those neuralgiae which

are symptomatic of cerebral tumors are marked by periodical headache, vertigo, facial neuralgia followed by anaesthesia, the appearance of convulsions, early signs of neuro-retinitis, palsy of various cranial nerves, and later paralysis in extremities. Hysterical neuralgias, appear after some mental excitement or convulsion, and are recognized by rapid modifications as regards situation and intensity, and by coexistence of other motor or sensory disturbance, they are generally of cerebral or spinal origin; rarely peripheral. Mercurial and lead neuralgias on the other hand are most always of peripheral origin, and are recognized by other symptoms and antecedents of the patient. Anaemic neuralgias often develope in tuberculosis,

chlorosis, and malarial fevers, and of course are due to the vitiated state of the blood upon the nervous system, and are noted by the ensemble of the disease. Arthritic neuralgias are most observed in old people and are accompanied by swelling and stiffness of the joints. Syphilitic neuralgias are due to periostitis or osteitis. Rheumatic neuralgias are usually confined to the final nerve ending in the skin, aponeuroses, muscles and joints, and are generally the effect of cold. Neuralgias of mucous membranes are most always phenomena of central affections or hysteria: finally peripheral pains may radiate to remote sensory nerves and give rise in nervous individuals (especially females) to irradiated neuralgias, as for example:

the pain in the shoulder in hepatic colic, dorsal pain in gastric carcinoma, femoral pain in renal calculi etc.

Prognosis. This depends mainly upon the primary causative influence, the peripheral forms stand a good chance of recovery under appropriate treatment; again, those of cerebral or spinal origin are very obstinate. Toxic and hysterical forms when due to anaemia improve with improvement in the general health. Neuralgias in young subjects when of recent origin are much more susceptible of treatment than chronic cases, in those advanced in life frequent relapses are common, and the persistence of the puncta dolorosa is premonitory of the return of the disease.

Treatment. This is general and local it is best first to try and remove the cause, this is generally easier to discover than to effect, in most cases we must endeavor to relieve the morbid excitability of the nerves, or suppress their conducting power. In rheumatic neuralgias much good is obtained by use of antiphlogistics, diaphoretics, vapor baths, moist packs followed by cool half baths and electricity; in a chronic case we must continue these measures methodically and for a long time in connection with various thermal waters; if it is due to anaemia, tonic treatment as cod liver oil, iron, (the following I think would be good in a case of simple anaemic neuralgia ℞ Pil Ferri Carb grs XL, Ext Nucis Vom grs V, Ext Hyosciami grs X. ft. XX pills, one t.d.)

and the ferruginous preparations and waters, iodide potash if from periostitis: in toxic neuralgias warm baths, nutritious diet, and stimulation of the secretions is proper. Palliative treatment consists in diminishing the abnormal excitability of the nervous system: among remedies for this purpose bromide potash two to four grammes daily is recommended: in the periodical form large doses of quinine, or fowler's solution is good: in cases in which opium and other sedatives are not well borne by the stomach hypodermic use of morphia or atropine is useful, ointment of veratrine, flying blisters, (especially in acute rheumatic forms) frictions with tinct aconite root until the skin tingles, chloroform, soap liniment, etc: those preparations which are

volatile must be protected by oiled silk; local anaesthesia, turpentine stupes, hot flannel cloths, sinapisms, carbolic acid mixed with glycerine, or in severe cases scrape off the cuticle and apply a mixture of acetate morphia and gum arabic: in neuralgias of dental nerves a mixture of chloroform, alcohol and acetate morphia is highly recommended: electricity is one of our most important remedies, but old, complicated, central affections often resist all treatment: in practicing faradization it is best to use the secondary current, placing the electrical brush along the course of nerves: in using the continuous current, which is preferable on account of its less tension, place the anode as closely as possible to the centres, and the cathode upon the

painful points, increasing gradually a moderate current. In spinal neuralgias pass the galvanic current through the vertebral column, and stabile currents through the nerve trunks. In cerebral forms weak currents are either applied locally or made to traverse the head, through the medium of the mastoid processes: galvanization of cervical sympathetics is recommended in basilar and arthritic neuralgias. In the use of hydrotherapeutic treatment we endeavor to lessen the local or general sensibility, and to quiet erethism of the nerves or their centres, by acting on the vast sensory network of the skin: it is best to start with half baths at 24°-22°C, and gradually bring down their temperature: if the pains are violent

combine moist packs and dorsal affusions with the baths; but local douches are only to be applied if we know the neuralgia is peripheral. In those cases of central origin take care to diminish the exciting action of cold, and avoid all stimulating measures; noting the individual conditions. In those cases that resist all other treatment surgical interference becomes necessary: most surgeons favor the excision of a considerable part of the nerve, to prevent reunion, about a centimetre may be removed: the operation of neurotomy is not so much in favor, and is indicated where the neuralgia occupies a circumscribed region, when due to compression, or when the pains are very intense and refractory.

although the excision of a nerve is often of only temporary benefit, the neuralgia appearing in other branches; nevertheless, a longer or shorter suspension of the pains is a benefit to the patient constitutionally, that we cannot too highly esteem.

C. H. Heffenger.

A Thesis

on

"Milk Sickness"

by

A. M. Newby of Md.

for the

degree of M. D.

Milk Sickness.

This affection is one of the most remarkable and subtle poisons, which the general practitioner is called upon to treat. Its etiology is clothed in the deepest mystery and obscurity, and all attempts to fix it on certain planetary elements of soil or water, have resulted in repeated failures. Works on practice, seem to ignore it entirely and pass it by, with a most profound degree of indifference, simply stating, that such a poison they believe to exist, in the vast nomenclature

of diseases, but as it is localized and confined to certain areas and districts, it is not necessary to take up space in their valuable works, to specifically define its nature, symptoms & treatment.

Partly to its limited prevalence and partly to the uncertainty, which has existed as to its origin and character, many physicians, even those residing at no great distance from the places infected by it, entertain strong doubts of its claim to be considered as a distinct disease; some denying its existence altogether.

I, myself, having had the

opportunity of passing through its different phases, with a most prolonged and tedious convalescence am led to believe, that, it is a febrile disease, arising from a specific cause, which operates through the blood on the system at large, and, like the contagious poisons has the property of reproducing itself in all parts of the body. Dr Carson of Key- says it differs in two respects from all, the poisons known in the world.,

"1st ".,, It lies gently in the system for a long time, without exhibiting any of its toxic powers, until the person or

beast is forced to take exercise."
"2nd It is more ethereal, and diffusive than any poison known to me. Most of the poisons with which I am acquainted affects the stomach, bowels, the brain and nervous system, this pays no court to either but extends through every muscle, bone and tendon, affecting the whole system — yes, even the skin and cellular tissue under the skin."
The disease derived the name of "Milk Sickness" from the supposition that the poison was introduced into the system, through the milk of cows, suffering with the malady.
Previous to the year 1817 our knowledge of it was extremely limited and

undefined, no article as yet had appeared in any medical journal, and the practitioners of Tennessee, North Carolina and Kentucky, combatted it in its worst forms, without any definite intelligence, of its peculiar nature.

According to the late Dr Drake it was known in North Carolina more than ~~eighty~~ years ago. From North Carolina it followed emigration westward to Tenn, and Kentucky and has prevailed, and does now, to considerable extent, in various parts of Ohio, Indiana and Illinois. It has been stated by Dr Woods, about the only authority on the disease, that it is only found in those localities

where the soil is still in its virgin state, this, however, is disproved by numerous instances in later years, and is now believed by the majority of those physicians, who have encountered this affection, that cultivation has no effect either on its virulence or its recurrence. In a paper read before one of the Medical societies of Ohio, it was stated, that it only prevailed in certain low marshy districts where malaria was rife and that it was essentially of miasmatic origin. this no doubt may be a frequent complication in those regions. but how will it answer for its appearance in those

high mountain tops of North Western Maryland and Pennsylvania, where malarial fever is entirely unknown. Dr. Carson published quite an interesting paper some time ago, in which he traced its origin to arsenical poisoning. This arsenical poison was supposed to have arisen out of the earth and settled in the form of dew on vegetation, as nitre does on the tobacco leaf. He also states that he had treated several cases as arsenical poisoning and received the very best results. This theory has been severely criticised of late, and many of his conclusions were shown to be more fanciful

than real. Others, and perhaps the majority of physicians, ascribe the disease in animals to the eating of one or more poisonous plants, and some imagine that they have detected this plant in the common Rhus radicans or poison vine. But when we consider that this plant grows abundantly in places where the disease is entirely unknown, this idea must be abandoned. As to the cause we see there is a great difference of opinions. It has been reported that the medical fraternity of Ohio, at one time, offered a reward of $1,000 to the person, who would

find out the true nature and cause of the poison, and, it was also said of the numerous competitors, who pretended to have made a special study of it,— no two held the same opinion, and none was based on conclusive evidence.
Facts, admitted on all hands are, that the cause of the disease is confined within certain definite limits,— to certain fields, for example— certain valleys or recesses in the hills, or certain views, or tracts of country of considerable extent, and that herbivorous animals, while fed in these grounds and especially if confined upon them during the night or

drive to them early in the morning are often attacked by the disease and perish in great numbers. The disease occurs originally in herbivorous animals, as the ox, horse, sheep and goat, but may be imparted to the carnivorous, which feed on the flesh of the former. The hog seems to be peculiarly exempt from this fever. Dr Groff fed a sow for a fortnight on the poisonous flesh, which was killed dead, with no other effect than to fatten the animal. In the beginning the symptoms are not well marked, so that the flesh or the milk of a diseased animal may be inadvertently used, under the impression the animal

is in good health. If, however, in this condition they are made to run or take violent exercise, they undoubtedly show evidence of the affection in muscular weakness and trembling, and if greatly fatigued or excited, may fall and die speedily in convulsions. If the animal is left undisturbed, the symptoms come on gradually, it loses its appetite, eyes become red and suffused, inattentive to every thing around it, and is at length seized with convulsions and dies. The trembling are so characteristic of the disease that it has given rise to the origin of the word "tremble" to designate the affection in lower animals.
In man, the symptoms, like most other

affections of this class, may come on suddenly and violently, but most frequently with premonitory signs of a disordered condition of the nervous and digestive functions. At first there is a sensation of weariness or lassitude, general uneasiness and muscular weakness, anorexia and constipation, these symptoms are most frequent. The occurrence of excessive nausea and vomiting with sensation of burning and weight in the epigastrium mark the beginning of a well formed case. The vomiting is excessive and extremely hard to control, the matter discharged at first, being that which the patient has swallowed, followed by a sour, acrid and greenish

substance, which if allowed to stand undisturbed, separates into a clear fluid on top and a coagulated mass at the bottom - and has a most disgusting and nauseating odor. The bowels are obstinately constipated from the beginning and if any spontaneous evacuations occur, they are hard, small and lumpy. Generally we have but little fever, the temperature rarely going up to 99°. Flatness and a contracted condition of the abdomen, together with pulsation of the abdominal aorta from the epigastrium to its bifurcation are always present. The pulse is slightly increased in frequency. The skin not much warmer than in health, but very dry and dusky, the tongue covered with a

white or yellowish fur. The urinary and biliary secretions are generally suppressed and the patient is low-spirited and very apprehensive. One of the most characteristic symptoms, is the excessively offensive smell of the breath, which renders the apartments of the sick nearly untenable. The odor is very peculiar, and quite diagnostic, as some physicians think of the disease. Dr Byford thinks it resembles a mixed smell of chloroform and mercurial salivation. If the disease is not arrested the symptoms increase in severity, the vomiting becomes exceedingly violent, and assumes a coffee ground appearance. The pulse is weak and feeble, and the breathing is laborious and

a sense of sinking in the chest. The extremities become cold while the trunk is hot., the conjunctivae shrunken and contracted, and very generally toward the termination of the disease, the bowels become loose and large watery evacuations occur. The tongue now becomes dry, red and cracked and covered with a dark fur, and sordes collect around the teeth, The urine remains scanty and if secreted at all, is retained in the bladder. These symptoms may continue for a few hours or days, when stupor comes on, and death takes place preceded by profound coma.

A favorable termination is marked

by a diminution of all the symptoms and the patient is gradually restored to sound health. The convalescence is marked by a peculiar tendency to relapse, whenever the patient subjects himself to fatigue or vicissitudes of temperature. This liability to relapse is well marked and continues for months after the original attack abates.

Prognosis.— The prognosis seems to vary according to the treatment and the locality. In some districts the disease is only met with, in its most severe form, and requires the most judicious and careful treatment to carry the patient to a favorable issue. Copious blood-letting

and profuse use of mercury has been resorted to in some cases, and it can be readily understood that the indiscriminate use of these remedies would undoubtedly increase the fatality. Dr Graff says the mortality exceeds one half of those affected, Dr Wright treated thirty cases with one death. Dr J.M. Crooks of Ia., practices for fifteen years amongst the disease and did not loose a single patient. Dr Byford describes two varieties of the disease, inflammatory, and the malignant, the latter is almost always fatal.

In general, however, it may be said, that, in the common form, the prognosis is favorable if treated early and judiciously.

Diagnosis — The most characteristic symptoms of milk-sickness are, violent and incessant vomiting, a retracted and hardened state of the abdomen, disagreeable and distressing feeling in the stomach, absence of bile in the matter discharged, and the excessively disagreeable and peculiar odor of the breath, with this we may have encephalic inflammation and in very bad cases, great nervous prostration.

Treatment — In the treatment

all agree, that the first thing of importance, is to relieve the incessant vomiting and correct the obstinate constipation. Some prefer Calomel in large doses, others strenuously oppose this medicine. Opium is recommended by some to relieve the vomiting, but is decidedly objectionable on account of increasing the constipation, and difficulty of procuring biliary secretions. A strong mustard plaster applied over the epigastrium until the patient can bear it no longer is decidedly advantageous, then administer five to twenty grains of Calomel according to the urgency of the occasion.

Calomel is undoubtedly one of the best Cathartics for an irritable stomach we have, and is certainly indicated to combat this condition of the disease, It is recommended to follow up the use of Calomel by other Cathartics, Dr Byford uses Seidlitz powder with a double quantity of Rochelle Salt, combined it it. Dr Bacon employs croton oil in the form of a bolus of blue-mass. The action of the Cathartic can be aided by the use of purgative enemata of large quantities of warm water with croton oil. Dr de Bruller, is exceedingly partial to whiskey and sulphur

of Magnesia and uses nothing else. Dr. J.M. Crooks, who has been remarkably successful in the treatment of this malady, not having lost a single patient, recommends most highly, alcohol morphia and blisters to arrest vomiting,, and further remarks, if he were restricted to a single remedy, he would select alcohol. He holds that alcohol neutralizes the poison and the alcohol is in turn neutralized, as "it is almost impossible to produce intoxication." As a cathartic, he prefers Sulphate of Magnesia, with calcined magnesia. This is the treatment

generally followed in simple cases.
In the inflammatory form, with high vascularity, blood-letting, both general and local has been found to be very beneficial.
In the malignant form when there is great prostration from the first, stimulants, sinapisms, friction to the spine and limbs, hot bottles heated bricks &c, to bring about reaction as soon as possible.
During convalescence great care should be taken to keep the bowels open and to maintain the biliary secretion, and especially guard against relapse by the best hygienical management.

Transfusion of Blood: Its History and its Future.

There is probably nothing more trite and at the same time more true, than that all efforts to effect a change in a long established order of things, is greeted with suspicion and rejection. It has been said that when the world is ready for a given discovery, that discovery has always been made, but it is at least as true, that discoveries are often made for which the world at large is wholly unprepared. This fact is, I am sure, well recognized by scientific men.

While Transfusion of Blood can hardly be ranked with the discoveries, what has been said above, tells part of its history. Although the operation of transfusing blood was written about and performed long before its circulation was fully understood, it still remains the pet hobby of a few and the "ignis fatuus" of the many. A wise discrimination in what to reject and what to accept from the many vaunted improvements and discoveries which are constantly being given

out to the world, is to be highly commended, but the members of the Medical profession, at least, should be ever ready to test and adopt whatever tends to advance the Healing Art. And it is much to the shame of the Profession that the operation which forms the subject of this essay, should be so long shown off, and so little tested and understood.

Let us take a retrospective glance at the History of Transfusion. The earliest work on this subject, of

which I find any mention, is one by Magnus Regil, published in 1604, in which he is said to describe transfusion as it is now understood, and to urge that its adoption would bring health to the diseased and strength to the aged and infirm. I have never seen a copy of this book, the title of which is "Mechanical Inventions." Harvey discovered the circulation of the blood in 1620, and this discovery directed thought to the operation of which Regil had previously written.

In 1828, Dieffenbach wrote

on the subject and ascribed to one Libavius the credit of being its originator; but a little search reveals the fact that Libavius wrote in 1614, or ten years later than Magnus Pegil.

Among the earliest experimenters in transfusion, I find the name of Sir Christopher Strew, of England, and following him, Dr. Lower made many experiments on the dog and other animals. To judge from his writings on the subject, Dr. Lower became quite enthusiastic on the ~~[illegible]~~ efficacy of the new operation, and

claimed that not only could the health of an animal be restored by this means, but that his nature and instincts could be materially altered. It was while Lower was still engaged in his experiments on the lower animals, that Europe was startled by the announcement that transfusion had been successfully performed on the human subject. The man to whom is due the honor of first employing this operation on man, is Denys of France, who with his co-experimenter, Emmerez,

had decided to attempt this at the first opportunity. After resolving upon this, at that time, extremely bold act, Denys consulted with several leading physicians of Paris, and endeavored to get their approval of the operation; but, as usually happens in such cases, the young experimenter encountered only violent opposition and disapprobation. Nothing daunted by this discouragement from his elders, his determination remained unshaken, and to his earnestness and strong independence

is due the first transfusion of blood into human veins. In this case Denys injected the blood of a calf into the basilic vein of the arm, and his experiment was soon followed by many others. Dr. Lower in England, assisted by a Dr. King, performed the operation successfully in 1667, using, for the purpose, blood from the sheep. Emmerez, the co-worker with Denys, paid a man to submit to the operation, which was satisfactorily performed. It was soon after this that an insane man was brought to Denys to be sub-

jected to the operation, after twice performing which, Denys declared him cured. The cure, however, was short-lived, and on the recurrence of the malady, he was again brought back to Denys, who operated on him a third time. This time the man died on the bench. About this time the operation seems to have been ~~to~~ falling somewhat into disrepute, several men having died either from, or shortly after, being operated upon. In reading an article on the subject in New York Medical Journal, December, 1875, I find these words, "The subject

of transfusion now excited uni-
versal attention in Paris; but
while the friends of the opera-
tion advocated its employement,
and predicted the most won-
derful results from its general
adoption, its enemies, of whom
there were many, let no occa-
sion slip to hold the operation
and its promoters up to scorn
and condemnation. The con-
troversity between its friends
and foes was soon brought
to a crisis by a series of unfort-
unate accidents which occurred
about this time." The series of
unfortunate accidents referred to,

was the death of several of those upon whom transfusion had been performed. The result of this was the trial and acquittal of Denyp, but his operation was forbidden ever to be performed in France again, unless with the consent of the medical faculty. Thus ended the brilliant career of Denyp and Emmerez, and thus died for over one hundred years, the operation of which they were such able advocates.

In 1785, Prof. Howard, of the University of Cambridge, in England,

again revived transfusion by experimenting on animals, first by transfusing from one animal to another of the same species, and afterwards, by transfusing from an animal belonging to one species into one belonging to another. He endeavored to prove by his experiments, that blood could be transfused between animals of different species with as satisfactory results as between animals of the same species. The results of his experiments, however, did not justify his conclusions. One of the earliest advocates of transfusion after its revival by Prof. Harwood

and a repeater of his experiments on animals, was Dr. Blundell, an obstetrician of London, which Harwood professed to have proved that transfusion between species was efficacious, Dr. Blundell found out that this was true in only a limited degree. The discovery, in part at least, explains the unsatisfactory results of previous operations in transfusion — which statement will be more fully explained further on. Contemporary with Blundell, and agreeing with him in his conclusion, that in transfusion the best results could only be obtained by

using blood from an animal of the same species as the recipient, were Dumas, Prevost, and Dieffenbach, and others, all of whose names are well known at least in the history of transfusion. Dumas and Prevost gave much attention to the microscopical examination of the red corpuscles of the blood of different animals, for the purpose of determining the suitability of each for purposes of transfusion. Dr. Blundell, having determined that the fibrin of blood contained no nutritive elements, was the first to use the "mediate method." In spite of

the advocacy of transfusion by such able men as those above spoken of, it was still looked upon as a new and strange innovation, unworthy of a place in the text-books of the day. Not till within the last forty years does this operation seem to be looked upon with even a slight degree of toleration by the profession generally.

The next writer of prominence is Dr. Routh, of England, who, writing in the "Medical Times," tabulates a number of cases and strongly recommends the operation. Let me here make use of

a quotation. "As late as 1859, Dr. E. Martin of Berlin, could find on record only fifty-seven cases in which it had been performed on recently confined women, and Dr. Blasius at a more recent date was able to collect & tabulate only one hundred and sixteen cases." The author of the above quotation adds that of the one hundred and sixteen cases, fifty-seven were performed in England, forty in Germany, seven in France, and but one in America. The history of transfusion from that time till the recent revival in England and Germany, is told in a very

few words — it was performed by a few and scouted by most of the profession.

In 1867, the birth of transfusion in this country may be said to have taken place. The Medical Society of Pennsylvania published in that year, among its transactions, a prize essay on transfusion, which imparted to a few of the medical men of this country some degree of the enthusiasm of which its author seemed to be full. The results of the experiments of a few men in this country and the European surgeons are the data we have

at the present time for judging of the efficacy of transfusion. The results of European experimenters are in great measure, unattainable to us, and the few experiments we have by American surgeons are very unsatisfactory. It was performed by Fordyce Barker of New York, and by him denounced; Drs. Allen and Morton after repeated experiments, commend it. But for want of any definite plan & method of operating, the results heretofore obtained are not to be regarded as setting forth its full merit. This would be the right place

to give a description of the different methods of performing the operation, but they are both — the mediate and the immediate — too well known to make any explanation necessary. For the immediate method, the instrument devised by Dr. Dowling and described at length in Biddle's Materia Medica, is the one generally employed. For the mediate method, it is only necessary to keep the blood at the proper temperature — about 100° F., — in a clean vessel, while it is being defibrinated, and then injected into a vein. The particulars ar-

rangement of the instruments used is a matter of no importance. All that is necessary is a reasonable amount of judgment, care, and skill on the part of the operator. It was shown by experiments by Dumas and Prevost that the fibrin of blood contains little or no vitalizing properties. So the friends of the mediate method claim that defibrinated blood secures all the advantages that blood containing fibrin can. (And it may also be stated here, as an argument for this method, that the use of defibrinated blood guards against

one of the most formidable dangers of transfusion, viz:- the formation of clot and the consequent production of embolism.

The experiments of Prof Leonard Landois, published among the translations in New York Medical Journal, Nov. 1874, throw much light on transfusion. He concludes, (1) the blood-serum of many animals dissolves the blood-corpuscles of others. Among the animals examined, the serum of the dog seems to be the most intense in its action, and that of the rabbit least active. (2) The blood-corpuscles of mammals

possess a variable degree of solubility in the blood-serum of other animals. The corpuscles of the rabbit's blood are very easily dissolved, while those of the cat and dog possess less solubility.

These conclusions show some of the dangers [illegible] in [illegible] a between species. If blood from an animal belonging to one species be transfused into [illegible] one of two things will happen; either the corpuscles in the blood of the recipient will be [illegible] consequent [illegible] of the blood and death;

4

[illegible] the [illegible]
blood will be dissolved, and
the [illegible] will be [illegible]
or [illegible] from the [illegible]
of blood, [illegible] the
[illegible] [illegible], then the [illegible]
[illegible] fibrin [illegible] [illegible]
[illegible] the [illegible] of the [illegible]
coloured corpuscles, and [illegible]
[illegible], and so [illegible]
brought about. This, then, will
[illegible] as a [illegible] [illegible]
[illegible] of the [illegible]
[illegible] of many of the [illegible]
and [illegible] in the body and
[illegible] the [illegible] [illegible]
[illegible] [illegible] [illegible] the

[illegible] of the [illegible]
[illegible] of a [illegible] [illegible]
is [illegible] more [illegible] [illegible] [illegible]
[illegible] than it [illegible] [illegible]
[illegible] It is [illegible] [illegible] in the
[illegible] stages of our knowledge that none but human
blood should be used [illegible]
transfusion on the human
species. But there is something
else yet to be learned
which may be shown at some
future time. For there is
some animal whose blood is
beautifully well adapted for
the purpose of transfusion on
which is more [illegible]. It

4

[illegible] [illegible] [illegible] [illegible]
published in the [illegible] of the
[illegible] [illegible], that [illegible]
[illegible] the [illegible] [illegible]
this [illegible].

[illegible] I have given a
brief [illegible] of the history
of [illegible] [illegible] [illegible]
[illegible] endeavored to show why the
[illegible] [illegible] [illegible]
[illegible] [illegible] the [illegible] to
[illegible] the [illegible] [illegible] years
ago. It has also been shown
[illegible] [illegible] [illegible] and [illegible]
[illegible] the [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] that
these [illegible] [illegible] [illegible] [illegible] [illegible]-

[illegible]

[illegible] in the not
very distant future. It is a
[illegible] to the [illegible]
[illegible] of the [illegible] economy,
to simplify [illegible] a [illegible] of
medication, and the good re-
sults that is promised to follow
in its [illegible], are sufficient
inducements to the [illegible]
[illegible] to give the [illegible]
[illegible], [illegible] and [illegible].

Puerpal Septicæmia

Pathological Anatomy has in the immediate past thrown a flood of light upon theories, built solely upon clinical observation, essentially modifying these theories in many ways, and giving them a scientific basis; but, unfortunately, too often do we find in the history of medical literature, that observers in making their pathological inquiries, pay too exclusive at-

lention to the morbid changes found on post-mortem examinations. - From want of due appreciation of facts or erroneous interpretation of morbid appearances, they view and uphold as a cause, what is merely an effect, and thus lay the groundwork for innumerable fanciful and inconsistent theories, which only lead to confusion. These paramount difficulties, we encounter in investigating the etiology of every disease; but preeminently do we find it so, in attempting to decipher the

many diverse and conflicting opinions, entertained at the present day, concerning the pathology of Puerperal Septicæmia, by men of high prominence in the medical world, and try to harmonize the whole and reconcile their contradictory statements. Thus, while some maintain, that the morbid processes in this disease, are dependent, primarily, on the anæmia of pregnancy, and, secondarily, on the influence of a "genius epidemicus"; others hold, that these processes are due to microcosms or bacteria, which, they #

say, constitute the essential septic element; - others state that it is only a local inflamation, as peritonitis; and still, others declare it to be a metritis, a phlebitis, or an essential zymotic fever, peculiar to the puerperal state; and, although it is undeniable that each and all of these conditions may be found in connection with this disease, nevertheless, to say that any one of them, constitutes *per se* the disease itself, would be incompatible with many clinical facts observed during the course of this disease.

For, in the first place, if we #

Consider it due to an epidemic influence, exclusively, how shall we explain the not infrequent sporadic appearance of puerperal fever? 2ndly. Parasitic elements, such as vibrions and bacteria have been found in healthy lochial discharges - and have been noticed to be absent in the blood of many of the most malignant cases. 3rdly. To consider it to be essentially - any one of the above mentioned local inflamations, is entirely untenable, in view of the fact that, no one of these conditions is universally found; besides, in the

very worst cases, there has been observed an entire absence of any definite signs of a local inflamation - Lastly - to say it is an essential zymotic fever, as the eminent Fordyce Barker maintains, would presuppose, that there are distinct, constant and well-marked secondary local phenomena, attendant upon it, the same as we find in Typhus and Typhoid fevers; but this is not the case, for different local phenomena have been observed in different cases; besides, there is no obstetrician, however experienced he may be, who can foretell #

the tissues or organs, that will be involved in an attack of Puerperal Septicæmia.

Suffice it, therefore, to say, that, at present, the view, that seems the most consonant with clinical facts, is the one which considers Puerperal Fever to be a septo-pyæmic process, resulting from the absorption of infectious poisons, through the wounded surfaces of lying-in woman, with or without local involvement of other organs. Every condition suited for such septic absorption to take place, is found in the internal surface of the uterus after parturition. As a rule,

the mucous membrane of the uterus is entirely exfoliated during the puerperal state, thereby presenting a raw surface, upon which numerous veins open and gape; and, as every wound bleeds at first, and then, when the vessels have become, more or less contracted, there is an exudation of serum; so here, at first we observe a sero-sanguinolent discharge, which finally becomes a purely serous, under the name of the lochia. The analogy between an ordinary wound and the intra-uterine surface after parturition, is complete; and thus it

is, we can readily understand how pieces of placenta or coagula, allowed to remain and undergo putrefactive changes in the uterus, are taken up and infect the system.

This view, however, which upholds the identity of puerperal fever and surgical septicæmia, is itself not free from objections. For it is a well established clinical fact, that the specific contagium of several of the zymotic fevers, may give rise in the parturient woman to an array of phenomena, indistinguishable from those attending the disease in question. Besides, there is reason to believe —

that any of the zymotic fevers — may attack a recently delivered woman, giving the characteristic phenomena peculiar to both, without the developement of any symptoms, which would point to septic infection. Again, why is it that a zymotic poison in some puerperal patients runs its ordinary course, while in others it gives rise to an intense septicæmia? On the other hand, if they are identical, why should not a zymotic fever, supervening upon a surgical operation, be similarly modified? The only view, which to my mind offers #

Anything, approaching to an explanation or a solution of these problems, is to be found in the words of the eminent Tyler Smith who says, "that, apart from the state of the internal surface of the uterus after parturition, and especially that part of it, from which the placenta has been separated, there is in the habit and constitution of the gravid woman, some peculiarity, which, under numerous circumstances, produces the virus or poison which gives their characteristics to the multiform varieties of puerperal inflamatory and febrile disease." Very often it has been ob-

served, that a pleuritis, a peri-
tonitis, supervening upon pregnancy,
take on the puerperal type. Be-
sides, erysipelas may attack a
woman in the gravid state and
produce all the symptoms of puer-
peral fever; and after birth of the
child, it itself may take on erysipel-
as and die.

It may be said, however, that this
is only begging the question, and
that the fact still remains unex-
plained, why is it, that in some
a pyemic fever may run its
ordinary course (I have reference
to its appearance in connection with the
puerperal state) without producing

symptoms of septic poisoning?

Is it not possible, that the susceptibility, attending this peculiar predisposing and underlying condition, may be absent in these cases, or exists so feebly as not to respond to the exciting zymotic germs, and thus prevent the modification or alteration that such germs would have undergone; and thus left undisturbed, they pass through their ordinary course, characteristic of each of the several zymotic fevers?

But, leaving for the present this obscure subject of the pathology of this disease, I will now briefly

consider the sources of the septic poisoning. These are said to be autogenetic or heterogenetic, as they originate in the woman herself or are produced from external causes.

Among the former may be mentioned all conditions, which may give rise to decomposition; such as retention of portions of undetached placenta, or coagula of blood or a putrefactive foetus, or from a slough of the maternal tissues.

If these are such fertile sources of septicæmia, why is it that we do not encounter it more frequently in the puerperal state? The explanation is of practical impor-

#

tance. and found in the fact — that those gaping venous sinuses in the interior of the uterus, to a which I have already alluded, take on, under ordinary circumstances, a healthy reparative process, by which they readily heal, and thus absorption is prevented. The inference gathered from this and which all practitioners should fully appreciate, is that a woman whose health has been greatly deteriorated and reduced before act of parturition, is much more liable to infection, than one who has been enjoying good health throughout the duration of gestation.

#

Another fact, of which all should be aware, is that a case originating sporadically, may become contagious, so that we may avoid being the carriers of this deadly septic poison to our patients.

Among the heterogeneous influences, may be mentioned

1st. Contagion. It is strange to say that there are still some eminent physicians, who maintain the non-contagious nature of this disease; and acting on this conviction, blindfolded, as it were, by their prejudices, or rather, governed too exclusively by theoretical views and not duly considering practical di-

nical facts, have gone on attending patient after patient, with the most lamentable and fatal results. They argue that those cases, which seem to demonstrate the communicability of the disease, are really dependent on epidemic influences. This, they say, is further supported by the fact, that very often sporadic cases occur in distinct parts of the city, in the practice of different physicians. Besides, they say, how is it that an infectious poison clings for such a length of time to practitioners, as to oblige them to relinquish practicing midwifery altogether, of which there are #

on record some well authenticated cases? This, of course, is enshrouded with more or less mystery, but can be easily explained to an unbiassed mind by the fact, that as some persons are more prone to infection than others, so there are individuals more liable to convey infection than others.
Nevertheless, the practical fact still remains the same, and I cannot imagine, how such practitioners can reconcile their own conscience in the face of so many incontrovertible proofs, amassed by innumerable reliable writers on the subject, in their clinical experience!

I think, that in all such obscure questions, regarding which we entertain any doubts whatever, in the words of Tyler Smith, "it is better to know the worst, to fear the worst, and guard against the worst, than to harbor undecided opinions".

The Contagious principle may be conveyed from person to person, by different media. - Thus the hands of the accoucheur or his instruments; the nurse herself or the sponges, linen or other articles which she may have used in a former case, are all so many means of communication. Also it is very probable, that germs may

lurk in the atmosphere of over-crowded lying-in departments, and thus concentrating, may become highly infectious. This is proved by observations made at the Vienna hospitals, where the rate of mortality was greatly reduced by means inculcated to prevent inoculation or infection of lying-in woman. Again, the poison may gain access into blood of the puerperal woman through her lungs, conveyed there by the breath of the person acting as the medium of infection. This seems rather difficult to understand — that the blood of the accoucheur, for

example, may become surcharged with the puerperal poison, and that he may then communicate it to his patient through the medium of the air he respires. But, do we not encounter parallel cases in the history of the exanthematous fevers? A person may be proof against smallpox, scarlatina or measles, and still be infected, and be the means of carrying the virus to another individual. That the blood can be the medium of infection, is positively proved by the fact, that a pregnant woman, who has already suffered from smallpox and is proof against it #

may still on being exposed to the various poison, convey the disease to the foetus in utero.

Other sources of infection are, Hospital Gangrenge, the Scarlatinal poison, smallpox, the miasms derived from the dissecting-room, probably diphtheria, and erysipelas. In regard to the last, I may mention here, a curious phenomenon connected with it, in an instance that is on record, in which a child, born of a patient, who died of puerperal Septicaemia, took on erysipelas, from an abrasion produced by the forceps, and died.

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Another curious circumstance connected with the puerperal poison is, that as we have evidence that erysipelas, gangrene &c. &c. may produce child-bed fever, so the converse holds good, that puerperal septicæmia may give rise to sore throat, fever and erysipelas in any of her attendants, as the nurse or her husband.

Morbid Anatomy. — There are four distinct types of pathological changes, met with in this disease. 1st. Cases in which there are no very appreciable post-mortem alterations, as in the so called adynamic forms of the disease, in #

which the pathologist has not been able to encounter more than a fluid condition of the blood. Still, it is very probable, that in these malignant cases, the tissues are in some manner or other profoundly impressed and may suffer alterations, which baffle detection and elude even the penetrating eye of the accomplished microscopist.

2nd. Cases in which the serous membranes, as the pericardium, the pleura, the synovial membranes & most frequently of all the peritoneum, may show morbid changes, characteristic of inflamation of each of these special structures.

~~Bad~~. Cases, in which the mucous surfaces are involved. Thus, the mucous lining of the intestinal tract or that of the interior of the bladder or the substance of the kidneys or lungs may each alone show signs of complication after an ordinary attack of puerperal Septicæmia.

Lastly. Cases of embolic impaction, originating probably from a disorganization of the thrombi formed at the mouths of the uterine venous sinuses, consequent on septic infection. These thrombi act as plugs which, in the normal course of the puerperal state, become permanent, by being organized; but #

when affected by the pyæmic process, they undergo a degenerative action, and becoming loosened, they are wafted on through the different channels of the circulation, finally to be impacted in the parenchyma of the different organs of the body, there constituting so many foci of inflamation, abscess and gangrene. If such, however, are the ordinary channels of septic infection, and such, the local process involved, as a matter of logical inference, after the loosening of these thrombi, we ought to have hemorrhage from the uterus; but this is not ordinarily

the case, and why? Because, these fibrinous plugs, are not formed primarily, but secondarily, to the constringing action exerted by fibres found in the circular muscular layer of the uterus, forming rhomboidal spaces, in which are included, the mouths of the sinuses, and thus act as so many thousands of living ligatures.

Emboli may also originate in the lymphatics, by their undergoing the same local changes, as we traced in the case of the venous sinuses; plugs being formed & carried on to the general circulation by the thoracic duct, — which empties into the left subclavian #

vein.

Besides, it has also been observed that the organs of the body, separately or conjointly, may become involved to a greater or less extent, in the morbid processes. The liver may be disarranged so as to produce jaundice. - The Kidneys are often affected, giving rise to marked albuminuria. The brain and its meninges very frequently partake of the morbid action, as denoted by the coma, stupor and delirium which very often supervene during the later stage of the disease and are nearly always the forerunners of a fatal issue.

Thus, we may derive, comparatively speaking, a right accurate knowledge of the symptomatology of this disease, if we would note and consider carefully its pathology and morbid anatomy, and we could also become acquainted with the principal complications liable to occur in its natural course.

Similar inferences can we derive as regards the treatment if we are thoroughly well minded, with the laws that govern its etiology, as well as the more prominent clinical facts connected with it.

[illegible] I shall offer no remarks
relative to the treatment of
this disease, nor any detailed account
of the morbid anatomy of
the disease, for it would only
contribute more to bewilder
than your patience.

In conclusion, I have only
to add, that I am, with the
sincerest regard to the best
of my ability, to answer any
inquiries on the subject, the
most frequent and interesting
topics relative to the pathology
of Phthisis Pulmonalis,
the most important clinical
and practical facts connected

it is disease, and the chief
Relation which the best modern
appearances or its morbid anat-
omy have led to the adopted
by illustrious men of our profes-
sion; and in the course of
will be at the [illegible], [illegible]
nature of the disease, and after
the [illegible] of the [illegible]
with which we are acquainted,
have not a yet been satisfac-
torily explained, but it is a
fact that we can account
only by modern chemical research,
for the rapid progress that has
been made in the investigation
of, and in the [illegible]

[illegible] at [illegible] of [illegible]
on the [illegible] and [illegible],
the most [illegible] chapter in
all its history — its [illegible] — and
the practical inferences deduced
therefrom for the [illegible]
and [illegible] of the most
formidable of all diseases
to which the female constitution
is subject.

I, now, very respectfully, ask, if this Council, in the [illegible] of the [illegible], for [illegible] [illegible].

[illegible]